PROJECT MANUAL
FOR
NORTHLAND CORRIDOR REDEVELOPMENT
PROJECT PHASE 4
AT 631 NORTHLAND AVENUE

VOLUME 1

ARCHITECT'S PROJECT NUMBER: 4326-07

ESD Regional Economic & Community Assistance Program #135,711

BUFFALO URBAN DEVELOPMENT CORPORATION
95 PERRY STREET, SUITE 404
BUFFALO, NY 14203

OCTOBER 2025

PREPARED BY:

WENDEL WD ARCHITECTURE, ENGINEERING,
SURVEYING AND LANDSCAPE ARCHITECTURE, P.C.

BARABARA A. CAMPAGNA/ARCHITECTURE & PLANNING, PLLC.

RAVI ENGINEERING & LAND SURVEYING, P.C.

PROJECT MANUAL
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PROJECT PHASE 4
AT 631 NORTHLAND AVENUE

VOLUME 2

BUDC
Buffalo Urban Development Corporation
Hon. Mayor Byron W. Brown, Chairman

SEAL OF THE CITY OF BUFFALO

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PROJECT MANUAL

FOR

NORTHLAND CORRIDOR REDEVELOPMENT PROJECT PHASE 4 AT 631 NORTHLAND AVENUE

ARCHITECT'S PROJECT NUMBER: 4326-07

ESD Regional Economic & Community Assistance Program #135,711

BUFFALO URBAN DEVELOPMENT CORPORATION

95 PERRY STREET, SUITE 404

BUFFALO, NEW YORK 14203

DATE: October 1, 2025

PREPARED BY:

WENDEL WD ARCHITECTURE, ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE, P.C.

PART 1 GENERAL

1.1 PROJECT IDENTIFICATION

A. Project Name: Northland Corridor Redevelopment Project Phase 4, located at 631 Northland Avenue, Buffalo, NY 14211.

B. Architect's Project Number: 4326-07

C. The Owner, hereinafter referred to as Owner: 631 Northland, LLC c/o Buffalo Urban Development Corporation (BUDC)

D. Owner's Project Manager: Angelo Rhodes II
1. Address: 95 Perry Street, Suite 404
2. City, State, Zip: Buffalo, NY 14203
3. Phone/Fax: 716-901-5386
4. E-mail: arhodes@buffalourbandevelopment.com.

E. Owner's Property Manager: Dennis Cannon
1. Address: 683 Northland Ave.
2. City, State, Zip: Buffalo, NY 14211
3. E-mail: dennis.cannon@comvestinc.com

1.2 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an Invitation to Bid to and request for qualifications from General Contractors for the construction of the project described below.

1.3 PROJECT DESCRIPTION

A. Summary Project Description: Restoration of the 631 Northland Avenue historic building, an approximate 40,000SF high bay industrial building listed on the National Register and accepted into the Brownfield Cleanup Program.

B. Contract Scope: Construction, selective demolition, renovation, site and infrastructure improvements, and hazardous material removal, and coordination with appropriate agencies supporting the historic nature of the building and required Brownfield cleanup and testing.

C. Contract Terms: Lump sum (fixed price, stipulated sum).

D. The premises are not presently occupied yet do share a shared driveway and surface lot.

1. Coordination with the Owner's Property Manager during bid and construction is required for access/use of shared drive access, other.

2. Comvest Inc. business hours are Monday through Friday: 7AM to 3PM.
All prospective bidders must notify the Owner's Property Manager in advance of project site examinations.

1.3 PROJECT CONSULTANTS

A. The Architect, hereinafter referred to as Architect: Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.
   1. Address: 375 Essjay Road, Suite 200
   2. City, State, Zip: Williamsville NY 14221
   3. Phone/Fax: 716-688-0766

1.4 PROCUREMENT TIMETABLE

A. Bid Documents Available: October 1, 2025

B. Pre-Bid Site Tour: 9:00 AM (EST), October 14, 2025 at 631 Northland Avenue, Buffalo, NY 14211

C. Last Request for Substitution Due: 7 days prior to due date of bids.

D. Last Request for Information Due: 7 days prior to due date of bids.

E. Bid Due Date: Thursday, November 6, 2025 before 1:00 PM local time. Bids shall be emailed and printed, as outlined in the Instructions to Bidders, to the attention of

   Angelo Rhodes, II, Senior Project Manager, Northland Corridor
   Buffalo Urban Development Corporation
   95 Perry Street, Suite 404
   Buffalo, New York, 14203
   E-mail: arhodes@buffalourbandevelopment.com

F. Notice to Proceed: To be determined by Owner, but anticipated to be no later than one hundred and twenty (120) days after the due date and subject to the full execution of the contract documents specified in 1.7(D) below.

G. Bids May Not Be Withdrawn Until: 120 days after due date.

H. Contract Time: 20 months

I. Desired Final Completion Date: Twenty (20) months from the issuance of the Notice to Proceed but in no event later than December 31, 2027. Work is subject to liquidated damages.

J. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.5 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be obtained at the Contractor's cost as follows:
   1. Contractor Reporter
   2. Avalon – Buffalo. https://www.avalonbuff-planroom.com/projects/public
      40 La Riviere Dr., Buffalo, NY
      (716) 995-7777
   3. The Construction Exchange Online Plan Room
      https://conexbuff.com/online-plan-room/

1.6 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.

1.7 FUNDING INFORMATION

A. The Project is a funding recipient of RECAP – Regional Economic & Community Assistance Program, grant funding through Empire State Development (Project No. #135,711). Contractor will be required to comply with requirements set forth in the RECAP Grant Agreement. Copies of Owner's grant documents are available from Owner upon Contractor's request.
B. This project is not tax exempt.
C. M/WBE Participation is required with an overall goal of thirty percent (30%). Contractor compliance and utilization reporting is required on a monthly basis.
D. Copies of the A101-2017 *Standard Form of Agreement Between Owner and Contractor (where the basis of payment is a Stipulated Sum)*, Exhibit A to the A101 *Insurance and Bonds* and A201 *General Terms and Conditions* are included in Parts 005000 and 006001 of the Project Manual. The A101, Exhibit A to the A101 and A201 contain modifications as required by the Owner. If selected as the General Contractor for the redevelopment of 631 Northland Avenue, Contractor is expected to enter into the A101, Exhibit A to the A101 and A201 documents with Owner in the forms attached.

1.8 MINORITY AND WOMEN BUSINESS ENTERPRISE BUSINESS INTEREST

In accordance with Governor Hochul's Executive Order No. 8 establishing a policy to promote equal opportunity in contracting for all persons, without discrimination for minority group members and women and business enterprises owned by them, and to eradicate the barriers that have impaired access by minority and women-owned business enterprise to State contracting opportunities, BUDC and ESD seek to encourage meaningful partnerships with and participation from NYS-certified Minority and Women-Owned Business Enterprise (M/WBE) at all project levels. For purposes of this solicitation, ESD hereby establishes an overall goal of 30% for Minority and Women-Owned Business Enterprises ("MWBE") participation for third-party vendors and services utilized for this contract. The vendor must document good faith efforts to provide meaningful participation by M/WBE's subcontractors or suppliers in the performance of the contract and agrees that BUDC may withhold payment pending receipt of the required M/WBE documentation. M/WBEs companies are encouraged to respond.

1.9 SELECTION PROCESS

Details with respect to Owner's selection process are detailed in AIA701 *Instructions to Bidders*.

1.10 GENERAL REQUIREMENTS

According to State Finance Law §§139-j and 139-k, this invitation to bid imposes certain restrictions on communications between respondents and BUDC during the procurement process. Respondents are prohibited from making contacts (whether oral, written, or electronic) with any BUDC personnel or BUDC Board member other than the designated BUDC staff member (unless the contact is otherwise permitted under State Finance Law §139-j(3)(a)). In addition,

respondents are hereby notified that any contact with any BUDC personnel, BUDC Board member, or the designated BUDC staff member which a reasonable person would infer is intended to influence the award of the contract under this invitation to bid is prohibited.

These prohibitions apply from the respondent's earliest notice of BUDC's intent to solicit proposals through the final award and approval of the procurement contract ("Restricted Period"). For this invitation to bid, the designated BUDC staff member is Angelo Rhodes II arhodes@buffalourbandevelopment.com.

A. **Respondent's Affirmation of Understanding of and Agreement Pursuant to State Finance Law §139-j(3) and §139-j(6)(b)**
BUDC is required to obtain written affirmations from all respondents as to the respondent's understanding of, and agreement to comply with BUDC's procedures relating to permissible contacts (described in paragraph 1 above). The affirmation must be provided to BUDC when the respondent submits its qualification statement. The form of affirmation to be completed and submitted by the respondent is included within Part 004113 as Exhibit A - Attachment 1 – Affirmation of Understanding Agreement.

B. **Respondent's Certification of Compliance with State Finance Law §139-k(5)**

State Finance Law §139-k(5) requires respondents to provide written certification that all information provided to BUDC with respect to State Finance Law §139-k is complete, true and accurate. The certification must be provided to BUDC when the respondent submits its qualification statement. The form of certification to be completed and submitted by the respondent is included within Part 004113 as Exhibit A – Attachment 2 – Offeror/Bidder Certification.

C. **Respondent Disclosure of Prior Non-Responsibility Determinations**

State Finance Law §139-k(2) obligates BUDC to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. In accordance with State Finance Law §139-k, each respondent must disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a Governmental Entity. State Finance Law §139-j sets forth detailed requirements about the restrictions on contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible contact during the Restricted Period (for example, contacting a person or entity other than the designated contact person, when such contact does not fall within one of the exemptions).

As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether a respondent fails to timely disclose accurate or complete information regarding the above non- responsibility determination. In accordance with the law, no procurement contract shall be awarded to any respondent that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the procurement contract to the respondent is necessary to protect public property or public health and safety, and that the respondent is the only source capable of supplying the required article of procurement within the necessary timeframe. Exhibit A – Attachment 3 – Offeror Disclosure of Prior Non-Responsibility within Part 004113 must be completed by the respondent and submitted to BUDC at the time of respondent's submission of its qualification statement.

New York State Finance Law §139-k (5) provides that every procurement contract award subject to the provisions of State Finance Law §§139-k and 139-j shall contain a provision authorizing termination of the contract in the event that the certification provided by the respondent that is awarded the contract is found to be intentionally false or intentionally incomplete. Such provision shall be included in the contract that is awarded (if one is awarded) pursuant to this invitation to bid.

1.11 PUBLIC DOMAIN

Respondents are advised that New York law provides that, upon the award of a contract subsequent to an invitation to bid, the contents of all proposals received pursuant to said request may be placed in the public domain and become public records subject to examination by any interested parties pursuant to the New York State Freedom of Information Law (FOIL). All trade secrets and proprietary information, recognized by BUDC as such, may be protected from public disclosure if respondents clearly identify, in writing, those part or parts of their proposals, which they claim to be proprietary information, trade secrets or other commercial information, or non-individual financial information that may be protected under FOIL. Proposals in total will not be considered proprietary. After the recommendation of the Selection Committee to the BUDC Board and a contract is awarded, all proposals are considered public documents, except those items specifically identified as proprietary. All materials submitted by a respondent in response to this invitation to bid will become the property of BUDC.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue
Buffalo, NY 14211

THE OWNER:
(Name, legal status, address, and other information)

Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, NY 14203

THE ARCHITECT:
(Name, legal status, address, and other information)

Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C.
375 Essjay Road, Suite 200
Williamsville, NY 14221

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ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

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ARTICLE 1 DEFINITIONS

(Paragraph deleted)

§ 1.1. Bidding Documents are the proposed Contract Documents, which consist of the following:

§ 1.1.1 Bidding Requirements, including Advertisement for Bid, Instructions to Bidders, Bid Form and other sample bidding and contract forms.

§ 1.1.2 Form of Agreement between Owner and Contractor, General Conditions, Supplementary General Conditions, Special Conditions and other Conditions, Drawings, Specifications and Addenda issued prior to execution of the Contract

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

.1 the Bidder has read and understands the Bidding Documents;

.2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;

.3 the Bid complies with the Bidding Documents;

.4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;

.5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and

.6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

(Paragraphs deleted)

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§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within thirty (30) days following the award of the Contract or rejection of bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall submit a request for information via e-mail only, using form included in the documents immediately following Section 017300, to the e-mail address shown on the form. Faxes and verbal requests will not be answered. Requests for information must be received no later than seven days prior to the date for receipt of
(Paragraphs deleted)
bids.

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.2.4 Upon submission of this bid or proposal, the Contractor is deemed to be a qualified expert in his profession and to have estimated the more expensive way of doing work in order to provide the intent of the Contract Documents as defined in the General Conditions, unless he shall have asked for and obtained written decision clarifying a conflict within or between Contract Documents before submission of his bid or proposal, as to which method or materials will be required.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least seven days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

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§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

(Paragraphs deleted)

Failure of any bidder to receive addenda shall not relieve such bidder from any obligation under his bid as submitted

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than three days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. Bids submitted by an agent shall not be accepted.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by

(Paragraphs deleted)

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a bid security in the form and amount required if so stipulated in the Advertisement for Bids:

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

(Paragraph deleted)
§ 4.2.3. Bid security may be a Bid Bond on AIA A310 from a company listed on Treasury Circular 570 unless otherwise provided in the Bidding Documents Certified Check or Cashiers Check, made payable to the Owner. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located**.**

§ 4.2.4 Bid security shall be submitted with the understanding that:

1. It shall guarantee that the bidder will not withdraw his bid for the time specified in the Advertisement for Bidders after the scheduled closing time for receipt of bids.
2. If his bid is accepted, he will enter into a formal contract with the Owner in accordance with the Form of Agreement included as a part of the Contract Documents.
3. The required Performance and Payment Bonds will be executed and submitted.
4. The failure to enter into said contract and give said bond within ten (10) days after he has received notice of the acceptance of his Bid shall cause the bidders to be liable to the Owner for the full amount of the bid guarantee as representing the damage to the Owner due to default of the bidder in any particular hereof

§ 4.2.5 The Bid Bonds and checks shall be returned to all except the three (3) lowest bidders within three (3) days after the specified time for receipt of bids.

§ 4.2.6 The remaining Bid Bonds and checks will be returned to the three (3) lowest bidders within forty-eight (48) hours after the Owner and the accepted bidder have executed the contract and the executed Performance and Payment Bonds have been approved by the Owner.

§ 4.2.7 If the required Contract and Bonds have not been approved by the Owner within the specified bid guarantee time, then the bond or check of any bidder will be returned upon his request, provided he has not been notified of the acceptance of his Bid prior to the date of such request

§ 4.3 Submission of Bids
§ 4.3.1 A Bidder shall submit its Bid as indicated
(Paragraphs deleted)
below and in the Advertisement for Bids:

§ 4.3.2 One (1) electronic submission of the Bid via email, and seven (7) paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place and email address indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

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§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two business days requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be
(Paragraphs deleted)
returned.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

Intentionally deleted.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 While it is Owner's general policy to award contracts to the lowest responsible bidder who meets the specifications for the Work, Owner may award this contract to other than the lowest responsible bidder under circumstances that Owner determines justifies an award to other than the lowest responsible bidder. In making that determination, Owner will consider the following criteria, not necessarily in the order provided or with equal weight given to each criterion:

1. Responsiveness to the provisions and requirements to the bid documents;
2. Ability to meet required specifications or intent as proposed in recommended alternative;
3. Ability to meet the project's established M/WBE participation goals;
4. The availability of adequate personnel to provide the requested services safely and efficiently;
5. The thoroughness of the quotation and clarity of the services to be provided;
6. Quality of performance on previous contracts or services as demonstrated through references and/or previous clients;
7. Price.

Owner may but is not required to interview bidders as part of its selection process. Based on the bids received, Owner will select the responsible bidder whose proposal is most advantageous to Owner, considering other factors in addition to price (the "Apparent Responsible Bidder"). Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

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§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the Apparent Responsible Bidder pursuant to the criteria described in Section 5.3.1.

§ 5.3.3 Pre-Award Meeting: Prior to Notice of Award, a Pre-Award Meeting will be held with the Apparent Responsible Bidder, the Owner and the Architect. The purpose of the meeting is to review and scrutinize the bid to determine the Apparent Responsible Bidder's understanding of the requirements of the Contract Documents, and to evaluate the Apparent Responsible Bidder's ability to satisfactorily complete the project. Items to be discussed include, but are not limited to the following:

1. All significant portions of the work will be reviewed to determine if the materials, products and equipment to be provided are those specified in the Contract Documents. Acceptability of proposed substitutions will be discussed.
2. The Apparent Responsible Bidder's complete cost breakdown will be reviewed to determine if all significant portions of the work appear to be included.
3. The timing and requirements of submittals required prior to Contract Award, Notice to Proceed and mobilization will be discussed, including but not limited to insurance certificates, performance and payment bonds, schedule of values, submittal schedule, preliminary project schedule, safety program, list of staff assignments and responsibilities, and identification of long lead times.
4. Existing conditions at the project site and requirements for mobilization will also be discussed.
5. Failure to participate in the Pre-Award Contractor meeting will result in rejection of Bid and forfeiture of Bid Bond.

§ 5.3.4 Submittals required for the Pre-Award Meeting are identified in Paragraph 6.3 SUBMITTALS as modified below and must be brought to the meeting by the Apparent Responsible Bidder. Minutes of the meeting will be recorded and submitted for review by all parties at the meeting. Upon acceptance by all parties, these minutes will become part of the Contract Documents.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Intentionally Omitted.

§ 6.3 Submittals

§ 6.3.1 The Apparent Responsible Bidder shall, at the Pre-Award Meeting submit the following information to the Construction Manager and Architect:

1. A designation of the work to be performed by the Bidder with his own forces;

(Paragraph deleted)

2. A list of names of Subcontractors or other persons or entities proposed to provide materials, products or equipment and perform portions of the work;
3. A properly executed Contractor's Qualification Statement.
4. A complete cost breakdown of the bid.

§ 6.3.2 The Apparent Responsible Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

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§ 6.3.3 Persons and entities proposed by the Apparent Responsible Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

(Paragraph deleted)

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 The successful bidder shall furnish and maintain a Performance Bond and a Labor and Material Payment Bond in the amount of 100% of the contract amount on AIA form A312, with all premiums paid by the Bidder. The surety for the Bonds shall be a duly authorized surety company satisfactory to the Owner, licensed to do business in the State of New York and listed in the latest issue of the U.S. Treasury Circular No. 570

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

(Paragraphs deleted)

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 Bonds need to be submitted and approved prior to Owner execution of the Contract. The Work shall be commenced in response to a "Notice to Proceed", and the bidder shall certify on an executed copy of the Notice to Proceed that he can and will provide the required bonds.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulate Sum.
(Table deleted)(Paragraphs deleted)(Paragraphs deleted)

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Additions and Deletions Report for
AIA® Document A701® – 2018

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PAGE 1

Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue
Buffalo, NY 14211

...

Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, NY 14203

...

Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C.
375 Essjay Road, Suite 200
Williamsville, NY 14221

...

8 ~~ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS~~FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

PAGE 2

~~§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.~~

§ 1.1. Bidding Documents are the proposed Contract Documents, which consist of the following:

§ 1.1.1 Bidding Requirements, including Advertisement for Bid, Instructions to Bidders, Bid Form and other sample bidding and contract forms.

§ 1.1.2 Form of Agreement between Owner and Contractor, General Conditions, Supplementary General Conditions, Special Conditions and other Conditions, Drawings, Specifications and Addenda issued prior to execution of the Contract

...

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§ 3.1.1 Bidders shall obtain complete Bidding ~~Documents, as indicated below,~~ Documents from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.
~~*(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)*~~

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ~~ten days after receipt of Bids.~~ thirty (30) days following the award of the Contract or rejection of bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.
PAGE 3

§ 3.2.2 ~~Requests for~~ Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall ~~be submitted by the Bidder in writing and shall be received by the Architect at least~~ submit a request for information via e-mail only, using form included in the documents immediately following Section 017300, to the e-mail address shown on the form. Faxes and verbal requests will not be answered. Requests for information must be received no later than seven days prior to the date for receipt of ~~Bids.~~
~~*(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)*~~

bids.

…

§ 3.2.4 Upon submission of this bid or proposal, the Contractor is deemed to be a qualified expert in his profession and to have estimated the more expensive way of doing work in order to provide the intent of the Contract Documents as defined in the General Conditions, unless he shall have asked for and obtained written decision clarifying a conflict within or between Contract Documents before submission of his bid or proposal, as to which method or materials will be required.

…

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ~~ten~~ seven days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.
PAGE 4

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.
~~*(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)*~~

Failure of any bidder to receive addenda shall not relieve such bidder from any obligation under his bid as submitted

…

§ 3.4.3 Addenda will be issued no later than ~~four~~ three days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

…

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind

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the Bidder to a contract. ~~A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.~~Bids submitted by an agent shall not be accepted.

…

§ 4.2.1 Each Bid shall be accompanied by ~~the following bid security:~~
~~*(Insert the form and amount of bid security.)*~~

a bid security in the form and amount required if so stipulated in the Advertisement for Bids:
PAGE 5

~~§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.~~

§ 4.2.3. Bid security may be a Bid Bond on AIA A310 from a company listed on Treasury Circular 570 unless otherwise provided in the Bidding Documents Certified Check or Cashiers Check, made payable to the Owner. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 ~~The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning days after the opening of Bids, withdraw its Bid and request the return of its bid security.~~Bid security shall be submitted with the understanding that:

1. It shall guarantee that the bidder will not withdraw his bid for the time specified in the Advertisement for Bidders after the scheduled closing time for receipt of bids.
2. If his bid is accepted, he will enter into a formal contract with the Owner in accordance with the Form of Agreement included as a part of the Contract Documents.
3. The required Performance and Payment Bonds will be executed and submitted.
4. The failure to enter into said contract and give said bond within ten (10) days after he has received notice of the acceptance of his Bid shall cause the bidders to be liable to the Owner for the full amount of the bid guarantee as representing the damage to the Owner due to default of the bidder in any particular hereof

§ 4.2.5 The Bid Bonds and checks shall be returned to all except the three (3) lowest bidders within three (3) days after the specified time for receipt of bids.

§ 4.2.6 The remaining Bid Bonds and checks will be returned to the three (3) lowest bidders within forty-eight (48) hours after the Owner and the accepted bidder have executed the contract and the executed Performance and Payment Bonds have been approved by the Owner.

§ 4.2.7 If the required Contract and Bonds have not been approved by the Owner within the specified bid guarantee time, then the bond or check of any bidder will be returned upon his request, provided he has not been notified of the acceptance of his Bid prior to the date of such request

…

§ 4.3.1 A Bidder shall submit its Bid as indicated ~~below:~~
~~*(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)*~~

below and in the Advertisement for Bids:

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§ 4.3.2 ~~Paper~~ One (1) electronic submission of the Bid via email, and seven (7) paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place and email address indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.
PAGE 6

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two ~~days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located,~~ business days requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be ~~attended to as follows:~~
~~*(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)*~~

returned.

...

~~If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.~~Intentionally deleted.

...

§ 5.3.1 ~~It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents.~~ While it is Owner's general policy to award contracts to the lowest responsible bidder who meets the specifications for the Work, Owner may award this contract to other than the lowest responsible bidder under circumstances that Owner determines justifies an award to other than the lowest responsible bidder. In making that determination, Owner will consider the following criteria, not necessarily in the order provided or with equal weight given to each criterion:

1. Responsiveness to the provisions and requirements to the bid documents;
2. Ability to meet required specifications or intent as proposed in recommended alternative;
3. Ability to meet the project's established M/WBE participation goals;
4. The availability of adequate personnel to provide the requested services safely and efficiently;
5. The thoroughness of the quotation and clarity of the services to be provided;
6. Quality of performance on previous contracts or services as demonstrated through references and/or previous clients;
7. Price.

Owner may but is not required to interview bidders as part of its selection process. Based on the bids received, Owner will select the responsible bidder whose proposal is most advantageous to Owner, considering other factors in addition to price (the "Apparent Responsible Bidder"). Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the ~~lowest~~

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~~responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.~~Apparent Responsible Bidder pursuant to the criteria described in Section 5.3.1.

§ 5.3.3 Pre-Award Meeting: Prior to Notice of Award, a Pre-Award Meeting will be held with the Apparent Responsible Bidder, the Owner and the Architect. The purpose of the meeting is to review and scrutinize the bid to determine the Apparent Responsible Bidder's understanding of the requirements of the Contract Documents, and to evaluate the Apparent Responsible Bidder's ability to satisfactorily complete the project. Items to be discussed include, but are not limited to the following:

1. All significant portions of the work will be reviewed to determine if the materials, products and equipment to be provided are those specified in the Contract Documents. Acceptability of proposed substitutions will be discussed.

2. The Apparent Responsible Bidder's complete cost breakdown will be reviewed to determine if all significant portions of the work appear to be included.

3. The timing and requirements of submittals required prior to Contract Award, Notice to Proceed and mobilization will be discussed, including but not limited to insurance certificates, performance and payment bonds, schedule of values, submittal schedule, preliminary project schedule, safety program, list of staff assignments and responsibilities, and identification of long lead times.

4. Existing conditions at the project site and requirements for mobilization will also be discussed.

5. Failure to participate in the Pre-Award Contractor meeting will result in rejection of Bid and forfeiture of Bid Bond.

§ 5.3.4 Submittals required for the Pre-Award Meeting are identified in Paragraph 6.3 SUBMITTALS as modified below and must be brought to the meeting by the Apparent Responsible Bidder. Minutes of the meeting will be recorded and submitted for review by all parties at the meeting. Upon acceptance by all parties, these minutes will become part of the Contract Documents.

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§ 6.2 ~~Owner's Financial Capability~~

~~A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.~~Intentionally Omitted.

…

§ 6.3.1 ~~After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the~~ The Apparent Responsible Bidder shall, at the Pre-Award Meeting submit the following information to the Construction Manager and Architect:

~~.1 a~~ 1. A designation of the ~~Work~~ work to be performed ~~with the Bidder's~~ by the Bidder with his own forces;

~~.2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and~~

~~.3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.~~2. A list of names of Subcontractors or other persons or entities proposed to provide materials, products or equipment and perform portions of the work;

3. A properly executed Contractor's Qualification Statement.

4. A complete cost breakdown of the bid.

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§ 6.3.2 The Apparent Responsible Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 ~~Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.~~Persons and entities proposed by the Apparent Responsible Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

~~§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.~~

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§ 7.1.1 ~~If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.~~The successful bidder shall furnish and maintain a Performance Bond and a Labor and Material Payment Bond in the amount of 100% of the contract amount on AIA form A312, with all premiums paid by the Bidder. The surety for the Bonds shall be a duly authorized surety company satisfactory to the Owner, licensed to do business in the State of New York and listed in the latest issue of the U.S. Treasury Circular No. 570

…

~~§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.~~

~~§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.~~
~~*(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)*~~

§ 7.2.1 ~~The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.~~Bonds need to be submitted and approved prior to Owner execution of the Contract. The Work shall be commenced in response to a "Notice to Proceed", and the bidder shall certify on an executed copy of the Notice to Proceed that he can and will provide the required bonds.

…

~~ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS~~
ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR
Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulate Sum.
~~§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:~~

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.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.4 Building Information Modeling Exhibit, if completed:

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda:

Number	Date	Pages

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[–] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017.)

—

[–] The Sustainability Plan:

Title	Date	Pages

[–] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents listed below:

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~~*(List here any additional documents that are intended to form part of the Proposed Contract Documents.)*~~

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 17:34:35 on 09/30/2025 under Order No. 20240074510 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A701™ – 2018, Instructions to Bidders, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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Contractor Qualification Form

Trade:	License No:	Date:

COMPANY INFORMATION *(please print or type)*

Legal Business Name:			**Type of Company** (General business):
Street Address:			**Years in Business** *(current name)*: / **Federal Tax ID:**
City:	**State:**	**Zip:**	**Business Type:** ☐ Corporation ☐ Sole Proprietor ☐ Partnership ☐ LLC/LLP ☐ Other
Mailing Address:			**Labor Affiliation:** ☐ Union ☐ Merit Shop ☐ Not Applicable
City:	**State:**	**Zip:**	**National Agreements** *(list union crafts with which you have national agreements)*:
President: (or equivalent)	**Vice President: (or equivalent)**		**Company Certifications** *(check if appropriate)*: ☐ MBE ☐ WBE ☐ DBE ☐ SBE ☐ VOSB ☐ Other
Principal Contact:	**Contact's Title:**		**Certifying Agency:** ☐ City: _____ ☐ State: _____ ☐ Federal: _____
Telephone Number:	**Toll-Free Number:**		**Minority/Disadvantaged Business Enterprise Relations/Participation:** Do you use Subconsultants/Subcontractors/Suppliers that qualify as: Minority Enterprises? ☐ Yes ☐ No Disadvantaged Business Enterprises? ☐ Yes ☐ No
Fax Number:	**Mobile Number:**		**Associations/Affiliations** *(list associations, i.e. AIA, ASCE, IEEE, ASHRAE, AWWA)*:
Email address:			
Company website:			

Parent Company or Subsidiary Information:

Parent Company Name		**Subsidiary Name**	
Street Address		Street Address	
City, State, Zip		City, State, Zip	
Telephone Number		Telephone Number	
Fax Number		Fax Number	

List any Employee Identification No., Social Security No., Name, DBA, trade name or abbreviation previously or currently used by your business which is different from that under which a contract or agreement will be signed.

Do you have a company Substance Abuse Policy?	☐ Yes ☐ No	**Do you have an Affirmative Action Plan for employees?**	☐ Yes ☐ No
Do you include training/orientation on sexual harassment in the workplace?	☐ Yes ☐ No	**Are you an Equal Opportunity Employer?**	☐ Yes ☐ No

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Contractor Qualification Form

COMPANY INFORMATION CONTINUED

Permanent Employees: Indicate the number of permanent personnel by classification

Total # of Employees		Engineers/Architects	
Executive / Management		Draftsmen	
Project Management		Foreman	
Project Engineers		Skilled Craftsmen	
Project Superintendents		Unskilled Labor	
Estimators		Other	

Do you have a Quality Control Program? ☐ Yes ☐ No	**In-house engineering or fabrication capabilities?** ☐ Yes ☐ No
Do you have Design/Build capabilities? ☐ Yes ☐ No	**Annual employee turnover percentage?** _____ %

What is the percentage of total annual work performed in or for the construction industry? _____ %

What is your desired project size? **Maximum $** _____ **Minimum $** _____

List data for three most recently completed fiscal years.

Fiscal Year	Max. Contract Value Completed	Annual Company Revenue	Current Year Company Workload
	$	$	
	$	$	$
	$	$	

List the scopes of work which your company typically performs. Indicate percentages self-performed by company vs. subconsultants for each scope.
(List additional scopes, if needed, on a separate sheet)

1.	Self-Performed %:		Subcontracted %:
2.	Self-Performed %:		Subcontracted %:
3.	Self-Performed %:		Subcontracted %:
4.	Self-Performed %:		Subcontracted %:

SAFETY INFORMATION

Safety performance for the past three years (if applicable)

	Year		
OSHA Recordable Incident Rate			
Experience Modification Rate (EMR)			
Number of Lost Workdays			
Number of Recordable Injury Cases			
Total Employees Hours Worked			
Number of Fatalities			

Does your company have a written Safety Program?	☐ Yes ☐ No
Do you have a Company Safety Director or other Safety Professional on staff?	☐ Yes ☐ No
Are all employees trained in safety requirements?	☐ Yes ☐ No
Has your company ever had its Workers Compensation Insurance dropped? *If yes, provide reason.*	☐ Yes ☐ No
Have you had any OSHA fines in the past 3 years? *If yes, provide details and circumstances for each incident.*	☐ Yes ☐ No

INSURANCE INFORMATION (Attach copies of current insurance certificates.)

Do you carry, or can you obtain the following minimum insurance coverage? (Insurance requirements will vary by project.)		
Worker's Comp Statutory Max at Project Site Location?		☐ Yes ☐ No
Employee Liability	$1,000,000	☐ Yes ☐ No
General Liability	$1,000,000 Occurrence	☐ Yes ☐ No
(Incl. Completed Ops)	$2,000,000 Aggregate	☐ Yes ☐ No
Auto Liability	$1,000,000	☐ Yes ☐ No
Professional Liability	$1,000,000 Occurrence	☐ Yes ☐ No
(if applicable)	$2,000,000 Aggregate	☐ Yes ☐ No
Umbrella/Excess	$1,000,000 Occurrence	☐ Yes ☐ No
	$2,000,000 Aggregate	☐ Yes ☐ No

Insurance Company:

Address:

Insurance Agent:

Telephone:

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Contractor Qualification Form

BONDING INFORMATION (If applicable)			
Bonding Company:		**Total Bonding Capacity**	$ _____
Contact:	**Phone:**	**Current Available Bonding Capacity**	$ _____

PROJECT EXPERIENCE INFORMATION			
List 3 largest projects CURRENTLY in progress		**List 3 largest projects COMPLETED IN LAST 5 YEARS**	
Project #1:		**Project #1:**	
Location:		Location:	
Contract Amount:	Completion Date:	Contract Amount:	Completion Date:
Architect Name / Phone:		Architect Name / Phone:	
GC/CM Name / Phone:		GC/CM Name / Phone:	
Owner Name / Phone:		Owner Name / Phone:	
Project #2:		**Project #2:**	
Location:		Location:	
Contract Amount:	Completion Date:	Contract Amount:	Completion Date:
Architect Name / Phone:		Architect Name / Phone:	
GC/CM Name / Phone:		GC/CM Name / Phone:	
Owner Name / Phone:		Owner Name / Phone:	
Project #3:		**Project #3:**	
Location:		Location:	
Contract Amount:	Completion Date:	Contract Amount:	Completion Date:
Architect Name / Phone:		Architect Name / Phone:	
GC/CM Name / Phone:		GC/CM Name / Phone:	
Owner Name / Phone:		Owner Name / Phone:	

TRADE REFERENCES		CONSULTANT, OWNER, GC, or CM REFERENCES	
Reference #1:		**Reference #1:**	
Contact:	Phone:	Contact:	Phone:
Reference #2:		**Reference #2:**	
Contact:	Phone:	Contact:	Phone:
Reference #3:		**Reference #3:**	
Contact:	Phone:	Contact:	Phone:

BANK or CREDIT REFERENCES			
Financial Institution #1:		**Financial Institution #2:**	
Contact:	Phone:	Contact:	Phone:
Established Line of Credit? ☐ Yes ☐ No		Established Line of Credit? ☐ Yes ☐ No	

LEGAL

Contractor Qualification Form

Within the past 5 years, has your firm, any affiliate, any owner or officer or major stockholder (5% or more shares) or any person involved in the bidding or contracting process been the subject of the following: (If Yes, explain on a separate sheet)	
1. A *judgment or conviction* for any business related conduct constituting a crime under local, state, federal or international law including, but not limited to, fraud, extortion, bribery, racketeering, price-fixing or bid collusion?	☐ Yes ☐ No
2. A *criminal investigation or indictment* for any business-related conduct constituting a crime under local, state, federal or international law including, but not limited to, fraud, extortion, bribery, racketeering, price-fixing, or bid collusion?	☐ Yes ☐ No
3. An unsatisfied judgment, injunction or lien obtained by an individual, company, or government agency including, but not limited to, judgments based on taxes owed and fines and penalties assessed by any government agency?	☐ Yes ☐ No
4. An investigation for a civil violation by any local, state, federal or international agency?	☐ Yes ☐ No
5. A grant of immunity for any business related conduct constituting a crimes under local, state, federal or international law including, but not limited to, fraud, extortion, bribery, racketeering, price-fixing, or bid collusion?	☐ Yes ☐ No
6. A local, state or federal suspension, debarment or termination from the contract process?	☐ Yes ☐ No
7. A local, state, or federal government suspension or termination for cause prior to the completion of the term of a contract?	☐ Yes ☐ No
8. A local, state, or federal government denial of award for non-responsibility or voluntary exclusion from bidding/contracting?	☐ Yes ☐ No
9. An administrative proceeding or civil action seeking specific performance or restitution in connection with any commercial or local, state, or federal contract?	☐ Yes ☐ No
10. A state or federal law violation deemed willful?	☐ Yes ☐ No
11. A firm-related bankruptcy proceeding?	☐ Yes ☐ No
12. A sanction imposed as a result of judicial or administrative proceedings relative to any business or professional license?	☐ Yes ☐ No
13. A denial, de-certification, revocation or forfeiture of Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise status?	☐ Yes ☐ No
14. A rejection of a low bid on a commercial or local, state or federal government contract for failure to meet statutory affirmative action or MWBE requirements on a previously held contract?	☐ Yes ☐ No
15. A consent order with the New York State Department of Environmental Conservation, or a federal, state, or local government enforcement determination involving a violation of federal, state or local government laws?	☐ Yes ☐ No
16. An Occupational Safety and Health Act citation and Notification of Penalty containing a violation classified as serious or willful?	☐ Yes ☐ No
17. A citation, notice, violation order, pending administrative hearing or proceeding or determination for violations of:	
a. Federal, state or local health laws, rules or regulations?	☐ Yes ☐ No
b. Unemployment insurance or workers' compensation coverage or claim requirements?	☐ Yes ☐ No
c. ERISA (Employee Retirement Income Security Act)?	☐ Yes ☐ No
d. Federal, state or local or international human rights laws?	☐ Yes ☐ No
e. Federal or state security laws?	☐ Yes ☐ No
f. Federal INS and Alienage laws?	☐ Yes ☐ No
g. Sherman Act or other federal anti-trust laws?	☐ Yes ☐ No

I hereby certify that the above information is true and compete to the best of my knowledge.

Printed Name _____ Signature _____

Title _____ Date _____

Return completed form: E-mail: Angelo Rhodes at arhodes@buffalourbandevelopment.com
Mail: BUDC 95 Perry St., Suite 404, Buffalo, NY 14203

Please attach any additional information about your company that you wish to be reviewed.

SUBSTITUTION REQUEST FORM

PROJECT: Northland Corridor Redevelopment Project Phase 4 - 631 Northland Ave.

OWNER: Buffalo Urban Development Corporation

TO	Architect	FROM	Contractor

Wendel Architecture, Engineering, Surveying, and Landscape Architecture PC
375 Essjay Road, Suite 200
Williamsville, NY 14221

CONTRACTOR'S REQUEST, WITH SUPPORTING DATA

1. Specification Sections to which this request applies:

☐ Product data for proposed substitution is attached (description product, reference standards, performance and test data).

☐ Sample is attached ☐ Sample will be sent if required by Architect

2. Itemized comparison of proposed substitution with product specified.

	SPECIFIED PRODUCT	PROPOSED SUBSTITUTION
Name, Brand:		
Catalog No.:		
Manufacturer:		
Warranty:		
Significant:		
Variations:		

3. Proposed change in Contract Time:

☐ Reduce/Increase Contract Time by _____ days. ☐ No change.

4. Proposed Change in Contract Sum:

Credit to Owner $_____ Addition Cost to Owner $_____.

5. Effect of the proposed substitution on other parts of the Work, or on other contracts.

_____

_____

CONTRACTOR'S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENTS

We have investigated the proposed substitution and we:

1. believe that , except for differences noted in the itemized comparison above;
3. will pay redesign and special inspection costs caused by the use of this product;
4. will pay additional costs to other contractors caused by the substitution;
5. will coordinate the incorporation of the proposed substitution in the Work;
6. will modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning;
7. waive future claims for added cost to Contractor caused by the proposed substitution

Contractor Signature (s) _____ Date _____

_____

ARCHITECT'S REVIEW AND ACTION

☐ Provide more information in the following categories. Resubmit.

_____

_____

☐ Sign Contractor's Statement of Conformance. Resubmit.

☐ The proposed substitution is approved, with the following conditions

_____

_____

☐ The proposed Substitution is rejected for the following reason (s):

_____

_____

Architect: Date:

BID FORM

To: Buffalo Urban Development Corporation
Northland Corridor Redevelopment Phase 4 at 631 Northland Avenue
95 Perry Street, Suite 404
Buffalo, NY 14203

In compliance with the Invitation for Bids, the undersigned:

_____
(Name of firm, partnership, or Corporation)

hereby proposes to furnish all supervision, labor, materials, plant, tools, equipment, transportation, overhead and profit, and other facilities related to, proper for, or incidental to the Bid Items noted below for this project, in strict accordance with the Project Manuals dated October 2025, and the Drawings mentioned therein, and including any subsequently issued addenda for consideration of the following breakdown:

BID ITEMS: Refer to Division 01 Section "Description of Bid Items" for complete description. Also, refer to Division 01 Section "Allowances"

1. LUMP SUM COST OF CONSTRUCTION

_____ Dollars ($_____)

2. ALLOWANCE NO. 1: CONTINGENCY ALLOWANCE – The following lump sum allowance is to be carried in the Total Lump Sum bid.

Computed Total Twenty Five Thousand Dollars Dollars ($ 25,000)

3. ALLOWANCE NO. 2: REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL WITH COMPACTED STRUCTURAL FILL – Unit price of $_____/CY, times assumed quantity of 2,500 CY. (Fill in unit price and computed total for this bid item.)

Computed Total _____ Dollars ($_____)

4. ALLOWANCE NO. 3: CONCRETE REMOVAL & REPLACEMENT – Unit cost for 25SF increments or fraction thereof totaling approx. 20% of the total ground floor level existing +/-6" thick concrete slab-on-grade. (Fill in unit price and computed total for this bid item.)

Computed Total _____ Dollars ($_____)

5. ALLOWANCE NO. 4: CONCRETE REPAIR – Unit cost for 25SF increments or fraction thereof totaling approx. 35% of the total ground floor level existing +/-6" thick concrete slab-on-grade. (Fill in unit price and computed total for this bid item.)

Computed Total _____ Dollars ($_____)

Not For Bidding

6. ALLOWANCE NO. 5: HAZARDOUS MATERIALS ABATEMENT – Unit cost for 25SF increments or fraction thereof for removal/abatement and handling specific to the itemized legend list. (Fill in unit price and computed total for this bid item.) Attach a unit price list to this bid form in accordance with the Abatement Legend provided in Section 012100 Allowances. The total on this Bid Form shall be a compilation of the unit prices and quantities of required items totaled together.

Computed Total _____ Dollars ($_____)

7. ALLOWANCE NO. 6: HAZARDOUS-CONTAINING DEBRIS REMOVAL – Unit cost for 25SF increments or fraction thereof for removal/disposal of asbestps the existing wood block floor prior to wood block removal. (Fill in unit price and computed total for this bid item.)

Computed Total _____ Dollars ($_____)

TOTAL LUMP SUM BASE BID (1+2+3+4+5+6+7)

_____ Dollars ($_____)

Not For Bidding

PROPOSED EQUIVALENTS

The Contractor has included in the Base Bid the following kinds, types, brands, or manufacturers of materials in lieu of those named in the specifications. The Contractor understands that he includes these proposed equivalent items in the Base Bid at his own risk, as they are subject to the approval of the Architect. The Contractor certifies that the following constitute the extent of proposed equivalent items included in the Base Bid and that the remainder of kinds, types, brands, or manufacturers included in the Base Bid are those named in the specifications.

ITEM	SPECIFICATION SECTION & PARAGRAPH(S)	PROPOSED EQUIVALENT

ATTACH ADDITIONAL PROPOSED EQUIVALENT ITEMS TO BID FORM.

SUBCONTRACTORS

The undersigned proposes to use the following subcontractors to complete the scope of work detailed within the Contract Documents:

1. SUBCONTRACTOR NAME _____ PHONE # _____ TRADE _____

MBE: YES/NO WBE: YES/NO DBE: YES/NO

SUMMARY OF WORK:

_____

_____

2. SUBCONTRACTOR NAME _____ PHONE # _____ TRADE _____

MBE: YES/NO WBE: YES/NO DBE: YES/NO

SUMMARY OF WORK:

_____

_____

3. SUBCONTRACTOR NAME _____ PHONE # _____ TRADE _____

MBE: YES/NO WBE: YES/NO DBE: YES/NO

SUMMARY OF WORK:

_____

_____

Not For Bidding

4. SUBCONTRACTOR NAME PHONE # TRADE

_____ _____ _____

MBE: YES/NO WBE: YES/NO DBE: YES/NO

SUMMARY OF WORK:

_____

_____

ATTACH ADDITIONAL SHEET TO THIS BID FORM LISTING PROPOSED SUBCONTRACTORS AS NECESSARY.

The Bidder agrees that this Proposal shall be good and may not be withdrawn for a period of one hundred and twenty (120) days from the Bid due date. The undersigned also agrees that the alternate prices on this proposal shall be valid and will not increase for a period of twelve (12) months from the date of Bid opening. The undersigned also agrees that the allowance amounts and unit prices on this proposal shall be valid and will not increase from the date of Bid opening through project completion.

The Bidder understands that the Owner specifically reserves the right to reject any and all Bids and to waive any informality therein.

The undersigned agrees to complete the work in accordance with the time period specified in the Standard Form of Agreement Between Owner and Contractor – AIA A101-2017.

Addendum Receipt: The receipt of the following addenda to the Specifications is acknowledged:

Addendum No. _____ Date _____ Addendum No. _____ Date _____
Addendum No. _____ Date _____ Addendum No. _____ Date _____
Addendum No. _____ Date _____ Addendum No. _____ Date _____
Addendum No. _____ Date _____ Addendum No. _____ Date _____

Contractor Qualification Form, shall be completed and delivered to the BUDC within 24 hours after Bids are due and upon receiving the request for the submittals by the Owner and/or Architect.

Not For Bidding

Dated _____, 20___

_____
Legal name of person, partnership, or corporation

(Sign Bid Here) By:

_____
Name and Title

Legal Business Address:

_____
Street

_____
City and State

_____
Phone Number

Not For Bidding

IF BIDDER IS A FIRM OR PARTNERSHIP, COMPLETE THE FOLLOWING:

Name of Members or Partners	Legal Residence
_____	_____
_____	_____
_____	_____

IF BIDDER IS A CORPORATION, COMPLETE THE FOLLOWING:

State of Incorporation: _____

Name and Title	Legal Residence
_____ President	_____
_____ Vice President	_____
_____ Secretary	_____

WAIVER OF IMMUNITY CLAUSE

The bidder hereby agrees to the provisions of the applicable General Municipal Law which requires that upon the refusal of person, when called before a grand Jury to testify concerning any transaction or contract had with the State, any political subdivision thereof, a public authority or with any public department, agency or official of the state or of any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract.

(a) Such person, any firm, partnership, or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any municipal corporation or any public department, agency or official thereof, for goods, work or services, for a period of five years after such refusal, and

(b) Any and all contracts made with any municipal corporation or any public department, agency or official thereof, since the effective date of this law, by such person, and by any firm, partnership, or corporation of which he is a member, partner, director of officer may be canceled or terminated by the municipal corporation without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the municipal corporation for goods delivered or work done prior to the cancellation or termination shall be paid.

Not For Bidding

_____
Individual

_____
Corporation

Date _____ By: _____

AFFIRMATIVE ACTION AGREEMENT

Firm Name: _____

Business Address: _____

Telephone Number: _____

Non-discrimination Clauses:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, or national origin and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, sex, color, or national origin. Such action shall be taken with reference, but not limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.

2. The Contractor will send to each labor union or representative of workers with which he has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State of New York Equal Rights Division, advising such labor union or representative of the Contractor's agreement under clauses (1) through (7) (hereinafter called "non-discrimination clauses"). If the Contractor was directed to do so by the contracting agency as part of the bid or negotiation of this Contract, the Contractor shall request such labor union or representative to furnish him with a written statement that such labor union or representative will not discriminate because of race, creed, sex, color or national origin and that such labor union or representative either will affirmatively cooperate, within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses or that it consents and agrees that recruitment, employment and the terms and conditions of employment under this Contract shall be in accordance with the purposes and provisions of these non-discrimination clauses. If such labor union or representative fails or refuses to comply with such a request that it furnish such a statement, the Contractor shall promptly notify the State Commission for Human Rights of such failure or refusal.

3. The Contractor will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State of New York Equal Rights Division setting forth the substance of the provisions of clauses (1) and (2) and such provisions of the State's laws against discrimination as the State of New York Equal Rights Division shall determine.

4. The Contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, sex, color, or national origin.

5. The Contractor will comply with all applicable local, state and federal non-discrimination laws will furnish all information and reports deemed necessary by the State of New York Equal Rights Division under these non-discrimination clauses and such sections of the Executive Law, and will permit access to his books, records and accounts by the State of New York Equal Rights Division,

Not For Bidding

the Attorney General and the New York Employment Relations Commission (WERC) for the purposes of investigation to ascertain compliance with these non-discrimination clauses and such sections of the Executive Law and Civil Rights Law.

6. This Contract may be forthwith canceled, terminated or suspended, in whole or in part, by the contracting agency upon the basis of a finding made by the State of New York Equal Rights Division that the Contractor has not complied with these non-discrimination clauses, and the Contractor may be declared ineligible for future contracts made by or on behalf of the State or a public authority or agency of the state, until he satisfies the State of New York Equal Rights Division that he has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such finding shall be made by the State of New York Equal Rights Division after conciliation efforts by the New York Employment Relations Commission have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the New York Employment Relations Commission, notice thereof has been given to the Contractor and an opportunity has been afforded him to be heard publicly before members of the New York Employment Relations Commission. Such sanctions may be imposed and remedies invoked dependently of or in addition to sanctions and remedies otherwise provided by law.

7. The Contractor will include the provisions of clauses (1) through (6) in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within the State of New York. The Contractor will take such action in enforcing such provisions of such subcontract or purchase order as the contracting agency may direct, including sanctions or remedies for non-compliance. If the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor shall promptly so notify the Attorney General, requesting him to intervene and protect the interests of the State of New York.

Signature (Authorized): _____

Title: _____

Not For Bidding

BID PROPOSAL CERTIFICATIONS

Firm Name _____

Business Address _____

Telephone Number _____ Date of Bid _____

I. General Bid Certification

The bidder certifies that he will furnish, at the prices herein quoted, the materials, equipment, and/or services as proposed on this bid.

II. Non-Collusive Bidding Certifications

By submission of this bid proposal, the bidder also certifies compliance with the following:

Statement of non-collusion in bids and proposals to political subdivision of the state. Every bid or proposal hereafter made to a political subdivision of the state or any public department, agency or official thereof where competitive bidding is required by statute, rule, regulation, or local law, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under the penalties of perjury: Non-collusive bidding certification.

(a) By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder to any competitor; and

(4) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition. (b) A bid shall not be considered for award nor shall any award be made where (a) (1) (2) and (3) above have not been complied with; provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a) (1) (2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting completions.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same

Not For Bidding

prices being bid, does not constitute, without more, a disclosure within the meaning subparagraph one (a).

2. Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work of services performed or to be performed or goods sold or not to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one of the section, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

III. Schedule Acknowledgement Certification

The bidder certifies that he acknowledges that time is the essence of the project schedule as outlined in specification section 011000 Summary and they have formally confirmed all specified materials and equipment will be procured and installed within the stipulated project schedule or be subject to liquidated damages as specified.

Signature (Authorized) _____

Title _____

Not For Bidding

MINORITY & WOMEN OWNED BUSINESS ENTERPRISES (MWBE)

NEW YORK STATE LAW

In 2006, the State of New York commissioned a disparity study to evaluate whether minority and women-owned business enterprises had a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title "The State of Minority and Women-Owned Business Enterprises: Evidence from New York" ("Disparity Study"). The report found evidence of statistically significant disparities between the level of participation of minority-and women-owned business enterprises in state procurement contracting versus the number of minority-and women-owned business enterprises that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified minority- and women-owned business enterprises program. The recommendations from the Disparity Study culminated in the enactment and the implementation of New York State Executive Law Article 15-A, which requires, among other things, that DOS establishes goals for maximum feasible participation of New York State Certified minority- and women – owned business enterprises ("MWBE") and the employment of minority groups members and women in the performance of New York State contracts.

There is an established Women/Minority-Owned Business Enterprises overall project goal of 30%.

Contractor must document good faith efforts to provide meaningful participation by MWBEs as contractors, subcontractors or suppliers in the performance of the Contract and Contractor agrees that Wendel may withhold payment pending receipt of the required MWBE documentation. The Contractor is required to complete and submit the MWBE Utilization Plan with their bid.

Contractors must submit the Monthly MWBE Contractor Compliance Report each month during the term of the contract for the preceding month's activity, documenting progress made towards achievement of the contract MWBE goals. Wendel requires that all Contractors use the New York State Contract System ("NYSCS") to report subcontractor and supplier payments made by Contractor to MWBEs performing work under the Contract. The NYSCS may be accessed at https://ny.newnycontracts.com/.

Please note that the Contractor Compliance Report must be submitted every month with the Contractor's Application for Payment. If there is no MWBE utilization in a given month, the report must be submitted reflecting a $0 value.

Utilization forms available upon request.

Not For Bidding

AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, NY 14203

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue
Buffalo, NY 14211

The Architect:
(Name, legal status, address and other information)

Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.
375 Essjay Road, Suite 200
Williamsville, NY 14221

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.
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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[ ] A date set forth in a notice to proceed issued by the Owner.

[X] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

Notice to Proceed to be determined by Owner but anticipated to be no later than one hundred and twenty (120) days after the bid due date and subject to the full execution of the contract documents.

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

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[X] Not later than twenty months (20) months from the issuance of Notice to Proceed but in no event shall Final Completion be later than December 31, 2027.

[ ] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

The Owner and Contractor recognize that time is of the essence and that the Owner will suffer financial loss if the work is not complete within the times specified in the Contract. If the Contractor fails to achieve Substantial Completion by the date to be provided by the Owner, the Owner and Contractor agree that as liquidated damages, and not as a penalty for delay in performance, the Contractor shall pay the Owner in the amount of five hundred dollars ($500.00) for each and every calendar day that expires beyond the agreed upon date for Substantial completion and that the Owner shall have the right to deduct liquidated damages from any amount due or that may become due to the Contractor, or to collect such liquidated damages from the Contractor or its Surety. The Owner has the option to enforce such liquidated damages or to waive such damages.

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§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than ( ) days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of five percent (5%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2017, General Conditions of the Contract for Construction;

.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of five percent (5%);

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2017.

§ 5.1.6.2 The progress payment amount determined in accordance with Section 5.1.6 herein shall be further modified under the following circumstances:

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and

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(Section 9.8.5 of AIA Document A201–2017 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)

(Paragraph deleted)

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2017.

(Paragraphs deleted)

§ 5.1.7. Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.6.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

0 % Zero Percent

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

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§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[ ] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[X] Litigation in a court of competent jurisdiction

[ ] Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

Angelo Rhodes II
Buffalo Urban Development Agency (BUDC)
95 Perry Street, Suite 404
Buffalo, NY 14203
Phone: 716-901-5386
Email: arhodes@buffalourbandevelopment.com

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

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§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Other provisions:

(Paragraphs deleted)

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 RECAP Grant Agreement available upon request

.4 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

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[ ] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

Scope Review Meeting Minutes dated xx-xx-xx

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	CONTRACTOR *(Signature)*
(Printed name and title)	*(Printed name and title)*

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Additions and Deletions Report for
AIA® Document A101® – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 12:43:02 on 09/30/2025.

PAGE 1

Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, NY 14203

...

Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue
Buffalo, NY 14211

...

Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.
375 Essjay Road, Suite 200
Williamsville, NY 14221

PAGE 2

[X] Established as follows:

...

Notice to Proceed to be determined by Owner but anticipated to be no later than one hundred and twenty (120) days after the bid due date and subject to the full execution of the contract documents.

PAGE 3

[ ] ~~Not later than ( ) calendar days from the date of commencement of the Work.~~ [X] Not later than twenty months (20) months from the issuance of Notice to Proceed but in no event shall Final Completion be later than December 31, 2027.

...

The Owner and Contractor recognize that time is of the essence and that the Owner will suffer financial loss if the work is not complete within the times specified in the Contract. If the Contractor fails to achieve Substantial Completion by the date to be provided by the Owner, the Owner and Contractor agree that as liquidated damages, and not as a penalty for delay in performance, the Contractor shall pay the Owner in the amount of five hundred dollars ($500.00) for each and every calendar day that expires beyond the agreed upon date for Substantial completion and that the Owner shall have the right to deduct liquidated damages from any amount due or that may become due to the Contractor, or to collect such liquidated damages from the Contractor or its Surety. The Owner has the option to enforce such liquidated damages or to waive such damages.

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§ 5.1.6.1 ~~The~~ Subject to other provisions of the Contract Documents, the amount of each progress payment shall ~~first include:~~be computed as follows:

.1 ~~That~~ Take that portion of the Contract Sum properly allocable to completed ~~Work;~~Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of five percent (5%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2017, General Conditions of the Contract for Construction;

.2 ~~That~~ Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed ~~construction, or,~~ construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in ~~writing; and~~writing), less retainage of five percent (5%);

.3 ~~That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.~~Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2017.

§ 5.1.6.2 The ~~amount of each progress payment shall then be reduced by:~~progress payment amount determined in accordance with Section 5.1.6 herein shall be further modified under the following circumstances:

.1 ~~The aggregate of any amounts previously paid by the Owner;~~

.2 ~~The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;~~Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2017 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)

.3 ~~Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;~~

.4 ~~For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and.~~2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2017.

~~.5 Retainage withheld pursuant to Section 5.1.7.~~

~~§ 5.1.7 Retainage~~

~~§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:~~
~~*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*~~

~~§ 5.1.7.1.1 The following items are not subject to retainage:~~
~~*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*~~

~~§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:~~

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~~*(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)*~~

~~§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:~~
~~*(Insert any other conditions for release of retainage upon Substantial Completion.)*~~

§ 5.1.7. Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.6.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

PAGE 5

0 % Zero Percent
PAGE 6

[X] Litigation in a court of competent jurisdiction

...

Angelo Rhodes II
Buffalo Urban Development Agency (BUDC)
95 Perry Street, Suite 404
Buffalo, NY 14203
Phone: 716-901-5386
Email: arhodes@buffalourbandevelopment.com
PAGE 7

§ 8.6 ~~Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:~~
~~(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)~~Other provisions:

...

~~§ 8.7 Other provisions:~~

...

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.4 ~~Building information modeling exhibit, dated as indicated below:~~

~~(Insert the date of the building information modeling exhibit incorporated into this Agreement.)~~RECAP Grant Agreement available upon request

...

~~.5~~ .4 Drawings

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Scope Review Meeting Minutes dated xx-xx-xx

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 12:43:02 on 09/30/2025 under Order No. 20240074510 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ – 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA A101-2017 EXHIBIT A – INSURANCE AND BOND REQUIREMENTS

OWNER'S INSURANCE REQUIREMENTS

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

The Owner shall also purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, (1) property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. This insurance shall be maintained until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. The insurance shall include the interests of the Owner, Wendel WD Architecture, Engineering Surveying & Landscape Architecture, P.C., Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees. The insurance shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. The insurance shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup; debris removal, including demolition occasioned by enforcement of any applicable legal requirements; and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Prior to commencement of the Work, the Owner shall secure the insurance set forth in this paragraph, and provide evidence of the coverage required and, upon the Contractor's request, provide a copy of the property insurance policy or policies. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

The Owner may, at its option, purchase and maintain Equipment Breakdown Insurance covering costs to repair, business interruption and loss of goods (traditionally known as Boiler and Machinery Insurance) in amounts Owner may feel necessary or appropriate with respect to the project. The option to secure and maintain such insurance is solely for the benefit of Owner. Failure of Owner to secure such insurance or to maintain adequate levels of coverage shall not obligate Contractor or its agents or employees for any losses that would have been covered by such policy and Contractor and its agents and employees shall have no liability therefor.

CONTRACTOR'S INSURANCE REQUIREMENTS

The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located with a current A.M. Best rating of no less than A-VII, unless otherwise acceptable to the Owner. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions. No representation is made that the insurance requirements set forth in this Agreement are sufficient to cover the obligations of the Contractor under this Agreement.

1. Workers' Compensation Insurance $1,000,000 each accident for bodily injury by accident; $1,000,000 each employee for bodily injury by disease; $1,000,000 policy limit for bodily injury by disease, with the following required endorsement if legally available which must be provided with the Certificate of Insurance.

- ✓ Waiver of Subrogation endorsement

2. Employers' Liability Insurance with policy limits not less than $1,000,000 each accident, $1,000,000 each employee, and $1,000,000 policy limit.

3. General Liability Insurance. Commercial General Liability (CGL) policy CG 0001 04/13 which includes Contractual Liability and Products/Completed Operations Liability coverages covering all operations required to complete the work and/or services, including damage caused by any explosion, underground or collapse when applicable, with a minimum limit of at least $1,000,000 per occurrence for bodily injury and property damage, and a policy deductible not to exceed $10,000 and on an "occurrence" basis. The SUBCONTRACTOR shall not self-insure or have a self-insured retention. The General Liability Insurance amount should be high enough to sufficiently cover the contract amount. Excess or Umbrella

Any equivalent of the indicated CGL policy or the required endorsements set forth below shall not contain exclusions or restrictions reducing coverage below that provided by the indicated ISO Forms and must be provided with the Certificate of Insurance.

- ✓ ISO CG 2038 12/19 - Additional Insured - Owners, Lessees or Contractors -Automatic Status for Other Parties When Required in Written Construction Agreement [Ongoing Operations];
- ✓ ISO CG 2040 12/19 - Additional Insured – Owners, Lessees Or Contractors – Automatic Status For Other Parties When Required In Written Construction Agreement [Completed Operations];
- ✓ ISO CG 2453 12/19 - Waiver Of Transfer Of Rights Of Recovery Against Others To Us (Waiver Of Subrogation) - Automatic;
- ✓ ISO CG 2001 04/13 - Primary and Noncontributory - Other Insurance Condition (as respects each insured and additional insured);
- ✓ ISO CG 2503 05/09 - Designated Construction Project(s) General Aggregate Limit.

4. Automobile Liability Insurance covering all vehicles, including owned, and non-owned vehicles, used by the Contractor with policy limits of not less than $1,000,000 per accident for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles, along with any other statutorily required automobile coverage. **The following Automobile Liability endorsements are required and must be provided with the Certificate of Insurance.**

- ✓ Additional Insured endorsement - Primary and Noncontributory;
- ✓ Waiver of Subrogation endorsement;
- ✓ Primary and Noncontributory - Other Insurance Condition endorsement
- ✓ Waiver of Subrogation endorsement

5. Excess/Umbrella Liability Insurance may be combined with primary General Liability Insurance, Automobile Liability Insurance and Employers Liability Insurance to achieve the required per occurrence coverages only if such policies are written (i) on an occurrence basis (ii) with defense cost coverage outside of policy limits, (iii) on an "as broad as primary policies" basis, and (iv) to expressly provide that the umbrella or excess policy will drop down over a reduced or exhausted aggregate limit of the underlying insurance for defense and indemnity and shall not require the exhaustion of the underlying limits only through the actual payment by the underlying

insurers. **The following required umbrella policy endorsements must be provided with the Certificate of Insurance.**

- ✓ As Broad as Primary Policies endorsement;
- ✓ Additional Insured endorsement - Primary and Noncontributory;
- ✓ Waiver of Subrogation endorsement;
- ✓ Primary and Noncontributory - Other Insurance Condition endorsement.

6. Professional Liability Insurance (if work involves professional services) covering negligent acts, errors and omissions in the performance of professional services with policy limits of not less than $1,000,000 per claim and $2,000,000 in the aggregate.

7. Pollution Liability Insurance (if work involves the transport, dissemination, use, or release of pollutants or other hazardous materials) with limits no less than $1,000,000 per occurrence and $2,000,000 policy aggregate.

8. Excess/Umbrella Liability Insurance may be combined with primary General Liability Insurance, Automobile Liability Insurance and Employers Liability Insurance to achieve the required per occurrence coverages only if such policies are written (i) on an occurrence basis (ii) with defense cost coverage outside of policy limits, (iii) on an "as broad as primary policies" basis, and (iv) to expressly provide that the umbrella or excess policy will drop down over a reduced or exhausted aggregate limit of the underlying insurance for defense and indemnity and shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers. **The following required endorsements must be provided with the Certificate of Insurance.**

- ✓ As Broad as Primary Policies endorsement;
- ✓ Additional Insured endorsement - Primary and Noncontributory;
- ✓ Waiver of Subrogation endorsement;
- ✓ Primary and Noncontributory - Other Insurance Condition endorsement.

9. Builder's Risk. The Contractor shall also purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, (1) property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis and (2) Equipment Breakdown insurance. This insurance shall be maintained until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C., Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees. The insurance shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. The insurance shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup; debris removal, including demolition occasioned by enforcement of any applicable legal requirements; and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Prior to

commencement of the Work, the Contractor shall secure the insurance set forth in this paragraph, and provide evidence of the coverage required and, upon the Owner's request, provide a copy of the policy or policies. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

10. Installation Floater Insurance (Required only if Contractor will supply or install equipment) on a replacement cost basis on the work in progress. The Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the work, including during transit, on-site or off-site storage, installation, and testing. The policy must cover the cost of removing debris, including demolition as may be legally necessary by the operation of any law, ordinance or regulation, and the property of others held in SUBCONTRACTOR'S care, custody and/or control. The policy deductible shall not exceed $5,000. The coverage shall be primary to any builder's risk insurance maintained by OWNER or DESIGN/BUILDER. SUBCONTRACTOR'S insurer shall waive any right of subrogation or recovery against OWNER or DESIGN/BUILDER.

11. Protective Liability Insurance (OCP) shall be furnished as indicated below:

- Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work performed by him under this Contract.
- Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work under this Contract performed for the Contractor by Subcontractors.
- Owner's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Owner with respect to all operations under the Agreement by the Contractor or by his Subcontractors, including omissions and supervisory acts of the Owner and of the agents and employees of the insured. Such insurance shall name as an additional insured or insureds, the person, persons or corporation specified in detail in the Information for Bidders and/or the agents, observers and employees of this or any other municipal body or public utility which may have granted permits in connection with the work. Owner's Protective Liability shall be written with a limit of liability of not less than $1,000,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident: and a limit of liability of not less than $1,000,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than $1,000,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than $1,000,000 aggregate for any such damage sustained by two or more persons in any one accident.
- Names of insured for Owner's Protective Liability Policy: The Owner, Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C., and both their agents and employees.
- Contractual Liability Insurance issued to and covering the liability imposed by Contract upon the Owner for work performed on private land with respect to all operations under the Agreement by the Contractor or by his Subcontractors.

- Contractual Liability Insurance issued to and covering the liability imposed by Contract upon the Owner for work performed on private land with respect to all operations under the Agreement by the Contractor or by his Subcontractors.

12. Other Specialty Liability Insurance in scope and amounts as is required by law and/or is common practice in the specialty trade or operation being exercised, including, but not limited to drone operations, handling of asbestos, use of watercraft, commercial diving, use of scaffolding or cranes, etc.

Where commercially available, each insurance policy required shall provide that coverage shall not be canceled except with thirty (30) days advance notice to the Owner.

The Contractor shall be responsible for payment of premiums for all of the insurance policies required of Contractor and shall be responsible for payment of any and all claims within applicable policy deductibles, above policy limits, or outside of policy coverage.

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the Owner requires and shall be entitled to the broader coverage and/or the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Owner and Additional Insureds.

1. **Contractor Property Insurance.** Contractor shall pay for and maintain property insurance necessary for protection against any and all loss to owned, borrowed or rented property, including capital equipment, all tools, including any tools owned by employees, and any tools, equipment, staging, scaffolding, towers, and forms owned, borrowed or rented by Contractor. The requirement to secure and maintain such insurance is solely for the benefit of Contractor. Failure of Contractor to secure such insurance or to maintain adequate levels of coverage shall not obligate DESIGN/BUILDER or its agents or employees for any such property losses and DESIGN/BUILDER and its agents and employees shall have no liability therefor.

2. Other Insurance Provisions

- CGL, Automobile, Umbrella and Pollution policies should be endorsed with the following two endorsements: (1) **Primary and Noncontributory endorsement**, (2) **Additional Insured endorsement(s)** covering the entities listed in the Additional Insureds table below as additional insured.

Additional Insured	631 Northland, LLC c/o Buffalo Urban Development Corporation 95 Perry Street, Suite 404 Buffalo, NY 14203

- The additional insured coverage shall be primary and non-contributory to any of the additional insured's general liability insurance policies and shall apply to both ongoing and completed operations.
- The CGL additional insured coverage shall be no less than that provided by ISO Forms CG 20 10 04 13 and CG 20 37 04 13, and with respect to the Architect and Architect's

consultants, CG 20 32 04 13. If CGL additional insured coverage is afforded by blanket endorsement it is required to be on ISO forms CG 20 38 12 19 and CG 20 40 12 19.

- CGL Policy coverage shall apply separately to each insured and additional insured party against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability. The insurance afforded to the additional insureds shall be at least as broad as that afforded the first named insured.
- **Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire** from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any insurance policy endorsement(s) that may be necessary to affect this waiver of subrogation. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation** in favor of the Owner for all work performed by the Contractor, its employees, agents and subcontractors.
- The CONTRACTOR shall not self-insure or have a self-insured retention without approval from the Owner. Any policy deductible shall be on an "occurrence" basis. The CONTRACTOR shall be responsible for payment of premiums for all of the insurance coverage required. The CONTRACTOR further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the CONTRACTOR is responsible hereunder, the CONTRACTOR shall be solely responsible for all deductibles without reimbursement by Owner.
- Where commercially available, each insurance policy required shall provide that coverage shall not be canceled except with thirty (30) days advance notice to the Owner. The Contractor shall promptly (but in any event within three Business Days of receipt thereof) inform the Owner if Contractor receives notice of cancellation of any insurance policy required to be maintained pursuant to this Agreement.

3. Verification of Coverage

Contractor shall furnish the Owner with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Owner before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Owner reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

4. Subcontractors

Contractor shall require and verify that each of its subcontractors and subconsultants shall maintain insurance meeting the requirements stated herein, unless waived by Owner in a writing, with amounts of coverage appropriate for the work to be performed by the subcontractor or subconsultant and with the Owner, the Architect, and the Architect's consultants named as additional insureds. For CGL coverage, subcontractors shall provide coverage with a form at least as broad as ISO Forms CG 20 10 04 13 and CG 20 37 04 13, and with respect to the Architect and Architect's consultants, CG 20 32 04 13. If CGL additional insured coverage is afforded by blanket endorsement it is required to be on ISO forms CG 20 38 12 19 and CG 20 40 12 19.

AIA A101-2017 EXHIBIT A – INSURANCE AND BOND REQUIREMENTS

5. Special Risks or Circumstances

Owner reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

SURETY BONDS

The Contractor shall purchase and maintain the required bonds (attached to this Exhibit A) from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

- AIA A310 Bid Bond 2010
- AIA A312 Performance Bond 2010
- AIA A312 Payment Bond 2010
- AIA A313 Warranty Bond 2010

The Payment Bond and the Performance Bond shall be in a sum equal to the contract price. If the Performance Bond provides for a one-year warranty a separate Warranty Bond is not necessary. If the warranty period specified in the contract is for longer than one year a Warranty Bond equal to 100% of the contract price is required. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State where the physical Project is located.

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue, Buffalo, NY 14211

THE OWNER:
(Name, legal status and address)

Buffalo Urban Development Agency
95 Perry Street, Suite 404
Buffalo, NY 14203

THE ARCHITECT:
(Name, legal status and address)

Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C.
375 Essjay Road, Suite 200
Williamsville, NY 14221

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Bidding Requirements (Advertisement or Invitation to Bid, Instructions to Bidders, Completed Bid Forms, Bid Bond, completed Contractor's Qualification Statement, and other sample forms).Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA

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Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 If required by the nature of the work, except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

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§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. If the Contractor fails to make such report, no excuse will thereafter be entertained by Owner or Architect for failure to carry out the work in satisfactory manner. Should conflict occur within or between Contract Documents, the Contractor is deemed to have estimated on more expensive way of doing work, unless the Contractor asked for and obtained written decision before submission of proposal as to which method or materials will be required.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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§ 3.4.2 The Contractor may propose substitutions in accordance with requirements for substitutions in Division 1 Specifications.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice,

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the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed. Proposed changes of Superintendents shall follow the same review procedure as in 3.9.2.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

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§ 3.10.4 This paragraph is supplemented by Division 1 specifications.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

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§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.12.11 This paragraph is supplemented by Division 1 specifications.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§3.15.3 This paragraph is supplemented by Division 1 specifications.

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§ 3.16 Access to Work
The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights
The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification
§ 3.18.1 To the fullest extent permitted by law, and not without standing the limits of any insurance provided or maintained by the Contractor, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's Consultants and officers, employees, members and agents of any of them from and against all claims, actions, liabilities, damages, and costs (including but not limited to, attorneys fees) of every nature and description arising out of or resulting from the acts, omissions, or negligence of the Contractor or his employees or agents or by anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable. The Contractor's duties and obligations pursuant to this subparagraph shall survive the termination or expiration of this agreement and shall not be limited by an provision herein requiring the Contractor to maintain specific insurance coverages.§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

(Paragraph deleted)

ARTICLE 4 ARCHITECT

§ 4.1 General
§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Services of The Architect
§ 4.2.1 The Architect will provide professional services as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the

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Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations

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and decisions, the Architect will not show partiality to either the Owner or Contractor, and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

(Paragraph deleted)

§ 5.1.1. A Subcontractor is any person or entity who has a direct contract with the Contractor to perform any portion of the Work. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor,

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prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the

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Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may. elect to complete such clean up with his own forces, or to contract with others for this service, either on a specific occasion, or for the balance of the project. In either event, the Architect shall determine, at his sole discretion, what portion of these costs shall be back charged to each Contractor.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

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.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.4.

§ 7.3.4 If
(Paragraphs deleted)
non of the methods set forth in clauses 7.3.3.1. 7.3.3.2 or 7.3.3.3 are agreed upon for determining the cost or credit to the Owner resulting from a change in the work, the cost or credit shall be determined as follows:

§ 7.3.4.1 For changes resulting in additional cost to the Owner, the cost shall be the actual computed cost and shall include the following:

.1 Labor, including foreman, (including Supplements).
.2 Materials entering permanently into the work.
.3 Use of equipment employed directly on the work.
.4 Power and consumable supplies for the operation of power equipment..5 Insurance (Workmen's Compensation, Social Security and Unemployment Insurance).
.6 Sales taxes and other local taxes (if applicable).
.7 For work performed by the Contractor with his own forces, there shall be added a percentage fee for the Contractor equal to 10 percent of items. (.1) through (.5) above.
.8 For work performed by a Subcontractor, there shall be added a percentage fee for the Subcontractor equal to 10 percent of items (.1) through (.5) above. To this total amount there shall be added an additional percentage fee of 5 percent for the Contractor.
.9 The percentage fee shall be compensation to cover the cost of supervision, overhead, profit and any other general expenses, which are not included in the cost of the work as defined above. Bond costs shall be added or deducted from total cost of the change directive.
.10 The percentage fees as indicated herein shall also apply to Sub-Paragraph 7.3.3
.11 Nothing in this article shall excuse the Contractor from proceeding with the extra work as directed..
.12 If Contractors are requested to submit lump sum proposal for extra work, such proposals shall include a detailed breakdown for all labor, materials and equipment including a breakdown of subcontractors' prices.

§ 7.3.4.2 For changes resulting in a credit to the Owner, the cost shall be the estimated costs as they would have been expended according to 7.3.4.1, or the value or prorated value of said work submitted in the Contractor's Schedule of Values, whichever is greater

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

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§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and/or binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine. If however, such delays are deemed to be the responsibility of the Contractor, then, in addition to any other remedy the Owner may seek, compensation for the Architect's services and expenses made necessary thereby shall be at the Contractor's expense.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

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§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Each application for payment shall include such instruments, evidence, and materials as the Owner, Owner's lender, or the title insurer shall require, including, without limitation, such requisition forms, disbursement requests, indemnities (including evidence of All Risk physical damage insurance coverage on materials and equipment stored off-site), and undertakings as they may specify and an estimate of the total labor done and materials stored at the site (or other location approved in writing by the Owner) or installed in the building, less costs for payment which has been made, and also less retainage specified in 9.6.3. All Applications for Payment shall be made on and in compliance with AIA Form G702, current edition, unless otherwise specifically defined. Owner will advise Contractor in advance of what documentation it, its lender, or the title insurer will require with each payment application. Contractor shall supply such additional documentation and information as Owner's lender or its inspecting architect shall request in connection with each disbursement to the Contractor. Each application for payment shall be accompanied by the following, all in form and substance satisfactory to the Owner:

.1 A current Contractor's lien waiver and duly executed and acknowledged sworn statement showing all Subcontractors and materialmen with whom the Contractor has entered in subcontracts, the amount of each subcontract, the amount requested for any Subcontractor and materialmen in the requested progress payment and the amount to be paid to the Contractor for such progress payment, together with similar sworn statements from all such Subcontractors and materialmen;

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.2 Duly executed waivers of mechanic's lien and materialmen's liens from all Subcontractors and, when appropriate, from materialmen and lower tier Subcontractors establishing payment or satisfaction of payment of all amounts requested by the Contractor on behalf of such entities or persons in any previous Application for Payment: and

.3 All information and materials required to comply with the requirements of the Contract Documents or reasonably requested by the Owner or the Architect.

§ 9.3.1.4 Contractors shall review a rough draft of each Application for Payment with the Owner's full time field representative and have it signed by him. The signed rough draft shall be submitted to the Architect along with the Application for Payment.

§ 9.3.1.5 Each application for payment shall include a copy of payroll records of the Contractor and Subcontractors for the period covered by the application for payment.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount,

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the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
.3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a Separate Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 There shall be retained 5 percent on the estimated amounts of completed work-in-place and on materials stored at the project site and 25 percent retained on the estimated amounts of materials stored off site until final completion and acceptance of all work covered by the Contract. Payment for material stored off site is subject to the conditions of Paragraph 9.3.2. No further or partial payments will be made after the time fixed for final completion of the work, or the time to which final completion may be extended under the terms of the Contract, until full and final completion and acceptance of the work. Payments for work under sub-contract of Contractors shall be subject to the above conditions applying to the prime contracts.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.6 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both,

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under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.7 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

(Paragraph deleted)

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. Should the Architect, on the basis of this second inspection, determine that the work is not substantially complete, the Contractor shall submit a request for a third inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers, relative to Substantial Completion shall be back charged to the Contractor.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 When the work or major portions thereof are substantially completed the Contractor shall submit to the Owner an application for payment of the remaining amount of the Contract balance. Upon receipt of such application the Owner

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shall approve and promptly pay the remaining amount of the Contract balance less two times the value of any remaining items to be completed and an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the Owner shall promptly pay, upon receipt of a requisition, for these items less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. Any claim, liens and adjustments referred to in this section shall pertain to the project and shall be filed in accordance with the terms of the applicable Contract and/or applicable laws.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 When contemplating application for final payment, the Contractor shall schedule, one week in advance with the Architect, a joint inspection visit to the Project to determine if the Contract has been fully executed. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.1.1 Should the Architect, on the basis of this final inspection, determine that the work is not complete, the Contractor shall complete the work, and issue a request for a second inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers shall be back charged to the Contractor.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

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§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
.2 failure of the Work to comply with the requirements of the Contract Documents;
.3 terms of special warranties required by the Contract Documents; or
.4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

.1 employees on the Work and other persons who may be affected thereby;
.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to

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the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

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§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents. § 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the

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Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

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ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

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§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

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§ 13.1 Governing Law

The State of Tennessee , County of Montgomery shall be the respective jurisdiction and venue for any legal action arising out of or in connection with this Contract. The laws of the State of Tennessee shall apply with regard to construction, interpretation, performance and information pertaining to this Contract.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

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such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.6 Limitation of Liability

The Contractor and his Subcontractors hereby certify that they are skilled and experienced in the use and interpretation of plans and specifications such as those included in the Contract Documents. The Contractor and his Subcontractors shall have carefully reviewed the plans and specifications and have found them free of ambiguities and sufficient for bid purposes. Further, the Contractor and his Subcontractors shall have based their bid solely on those documents, not relying in any way on any explanation or interpretation, oral or written, from any other source. Assured of the adequacy of the documents and the accuracy of his bid, the Contractor agrees and shall require his Subcontractors to agree to limit the liability of the Design Professional and the Owner for professional negligence, errors or omissions of the Design Professional to a total aggregate sum of $50,000 or the Design Professional's total fee for services rendered on this Project, whichever is greater. The Contractor and his Subcontractors do not assume any liability for damages to others caused by the professional negligence, errors or omissions of the Design Professional.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents

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with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of

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Subcontracts.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given and a statement of why additional time is necessary. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

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.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and/orbinding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution in a court of law.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolutionin a court of law.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

(Paragraphs deleted)

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PAGE 1

Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue, Buffalo, NY 14211

...

Buffalo Urban Development Agency
95 Perry Street, Suite 404
Buffalo, NY 14203

...

Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C.
375 Essjay Road, Suite 200
Williamsville, NY 14221

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The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the ~~Agreement,~~ Bidding Requirements (Advertisement or Invitation to Bid, Instructions to Bidders, Completed Bid Forms, Bid Bond, completed Contractor's Qualification Statement, and other sample forms).Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. ~~Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.~~

PAGE 11

The parties shall agree upon ~~written~~ protocols governing the transmission and use ~~of, and reliance on,~~ of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

...

Any use of, or reliance on, all or a portion of a building information model without agreement to ~~written~~ protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

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§ 2.3.1 ~~Except~~ If required by the nature of the work, except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.
PAGE 14

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. If the Contractor fails to make such report, no excuse will thereafter be entertained by Owner or Architect for failure to carry out the work in satisfactory manner. Should conflict occur within or between Contract Documents, the Contractor is deemed to have estimated on more expensive way of doing work, unless the Contractor asked for and obtained written decision before submission of proposal as to which method or materials will be required.
PAGE 15

§ 3.4.2 ~~Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.~~The Contractor may propose substitutions in accordance with requirements for substitutions in Division 1 Specifications.
PAGE 16

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed. Proposed changes of Superintendents shall follow the same review procedure as in 3.9.2.
PAGE 17

§ 3.10.4 This paragraph is supplemented by Division 1 specifications.
PAGE 18

§ 3.12.11 This paragraph is supplemented by Division 1 specifications.

...

§3.15.3 This paragraph is supplemented by Division 1 specifications.

PAGE 19

§ 3.18.1 To the fullest extent permitted by law, ~~the Contractor shall indemnify~~ and not without standing the limits of any insurance provided or maintained by the Contractor, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's ~~consultants, and agents and employees~~ Consultants and officers, employees, members and agents of any of them from and against ~~claims, damages, losses, and expenses, including but not limited to attorneys' fees,~~ all claims, actions, liabilities, damages, and costs (including but not limited to, attorneys fees) of every nature and description arising out of or resulting from ~~performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions~~ the acts,

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omissions, or negligence of the Contractor or his employees or agents or by anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable. The Contractor's duties and obligations pursuant to this subparagraph shall survive the termination or expiration of this agreement and shall not be limited by an provision herein requiring the Contractor to maintain specific insurance coverages.§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, ~~regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.~~the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

~~§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.~~

...

§ 4.2 ~~Administration of the Contract~~Services of The Architect

§ 4.2.1 The Architect will provide ~~administration of the Contract~~ professional services as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

PAGE 20

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will ~~endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either,~~ not show partiality to either the Owner or Contractor, and will not be liable for results of interpretations or decisions so rendered in good faith.

PAGE 21

~~§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.~~

§ 5.1.1. A Subcontractor is any person or entity who has a direct contract with the Contractor to perform any portion of the Work. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

...

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

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If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner ~~may clean up and the Architect will allocate the cost among those responsible.~~may. elect to complete such clean up with his own forces, or to contract with others for this service, either on a specific occasion, or for the balance of the project. In either event, the Architect shall determine, at his sole discretion, what portion of these costs shall be back charged to each Contractor.

PAGE 24

§ 7.3.4 If ~~the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:~~

~~.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;~~

~~.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;~~non of the methods set forth in clauses 7.3.3.1. 7.3.3.2 or 7.3.3.3 are agreed upon for determining the cost or credit to the Owner resulting from a change in the work, the cost or credit shall be determined as follows:

§ 7.3.4.1 For changes resulting in additional cost to the Owner, the cost shall be the actual computed cost and shall include the following:

.1 Labor, including foreman, (including Supplements).

.2 Materials entering permanently into the work.

.3 Use of equipment employed directly on the work.

.4 Power and consumable supplies for the operation of power equipment..5 Insurance (Workmen's Compensation, Social Security and Unemployment Insurance).

.6 Sales taxes and other local taxes (if applicable).

.7 For work performed by the Contractor with his own forces, there shall be added a percentage fee for the Contractor equal to 10 percent of items. (.1) through (.5) above.

.8 For work performed by a Subcontractor, there shall be added a percentage fee for the Subcontractor equal to 10 percent of items (.1) through (.5) above. To this total amount there shall be added an additional percentage fee of 5 percent for the Contractor.

.9 The percentage fee shall be compensation to cover the cost of supervision, overhead, profit and any other general expenses, which are not included in the cost of the work as defined above. Bond costs shall be added or deducted from total cost of the change directive.

.10 The percentage fees as indicated herein shall also apply to Sub-Paragraph 7.3.3

~~.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;~~.11 Nothing in this article shall excuse the Contractor from proceeding with the extra work as directed..

~~.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and~~.12 If Contractors are requested to submit lump sum proposal for extra work, such proposals shall include a detailed breakdown for all labor, materials and equipment including a breakdown of subcontractors' prices.

~~.5 Costs of supervision and field office personnel directly attributable to the change.~~§ 7.3.4.2 For changes resulting in a credit to the Owner, the cost shall be the estimated costs as they would have been expended according to 7.3.4.1, or the value or prorated value of said work submitted in the Contractor's Schedule of Values, whichever is greater

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§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation ~~and~~ and/or binding dispute resolution; or (5) by other causes that the Contractor asserts, and

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the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine. If however, such delays are deemed to be the responsibility of the Contractor, then, in addition to any other remedy the Owner may seek, compensation for the Architect's services and expenses made necessary thereby shall be at the Contractor's expense.
PAGE 26

§ 9.3.1.3 Each application for payment shall include such instruments, evidence, and materials as the Owner, Owner's lender, or the title insurer shall require, including, without limitation, such requisition forms, disbursement requests, indemnities (including evidence of All Risk physical damage insurance coverage on materials and equipment stored off-site), and undertakings as they may specify and an estimate of the total labor done and materials stored at the site (or other location approved in writing by the Owner) or installed in the building, less costs for payment which has been made, and also less retainage specified in 9.6.3. All Applications for Payment shall be made on and in compliance with AIA Form G702, current edition, unless otherwise specifically defined. Owner will advise Contractor in advance of what documentation it, its lender, or the title insurer will require with each payment application. Contractor shall supply such additional documentation and information as Owner's lender or its inspecting architect shall request in connection with each disbursement to the Contractor. Each application for payment shall be accompanied by the following, all in form and substance satisfactory to the Owner:

.1 A current Contractor's lien waiver and duly executed and acknowledged sworn statement showing all Subcontractors and materialmen with whom the Contractor has entered in subcontracts, the amount of each subcontract, the amount requested for any Subcontractor and materialmen in the requested progress payment and the amount to be paid to the Contractor for such progress payment, together with similar sworn statements from all such Subcontractors and materialmen;

.2 Duly executed waivers of mechanic's lien and materialmen's liens from all Subcontractors and, when appropriate, from materialmen and lower tier Subcontractors establishing payment or satisfaction of payment of all amounts requested by the Contractor on behalf of such entities or persons in any previous Application for Payment: and

.3 All information and materials required to comply with the requirements of the Contract Documents or reasonably requested by the Owner or the Architect.

§ 9.3.1.4 Contractors shall review a rough draft of each Application for Payment with the Owner's full time field representative and have it signed by him. The signed rough draft shall be submitted to the Architect along with the Application for Payment.

§ 9.3.1.5 Each application for payment shall include a copy of payroll records of the Contractor and Subcontractors for the period covered by the application for payment.
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§ 9.6.3 ~~The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.~~There shall be retained 5 percent on the estimated amounts of completed work-in-place and on materials stored at the project site and 25 percent retained on the estimated amounts of materials stored off site until final completion and acceptance of all work covered by the Contract. Payment for material stored off site is subject to the conditions of Paragraph 9.3.2. No further or partial payments will be made after the time fixed for final completion of the work, or the time to which final completion may be extended under the terms of the Contract, until full and final completion and acceptance of the work. Payments for work under sub-contract of Contractors shall be subject to the above conditions applying to the prime contracts.

...

§ 9.6.5 ~~The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.~~A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

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§ 9.6.6 ~~A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.~~Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.7 ~~Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.~~Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

~~§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.~~

PAGE 29

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. Should the Architect, on the basis of this second inspection, determine that the work is not substantially complete, the Contractor shall submit a request for a third inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers, relative to Substantial Completion shall be back charged to the Contractor.

…

§ 9.8.6 When the work or major portions thereof are substantially completed the Contractor shall submit to the Owner an application for payment of the remaining amount of the Contract balance. Upon receipt of such application the Owner shall approve and promptly pay the remaining amount of the Contract balance less two times the value of any remaining items to be completed and an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the Owner shall promptly pay, upon receipt of a requisition, for these items less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. Any claim, liens and adjustments referred to in this section shall pertain to the project and shall be filed in accordance with the terms of the applicable Contract and/or applicable laws.

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PAGE 30

§ 9.10.1 When contemplating application for final payment, the Contractor shall schedule, one week in advance with the Architect, a joint inspection visit to the Project to determine if the Contract has been fully executed. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract ~~Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable.~~ Documents. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.1.1 Should the Architect, on the basis of this final inspection, determine that the work is not complete, the Contractor shall complete the work, and issue a request for a second inspection. The cost of this and any subsequent inspections, either by the Architect or his Engineers shall be back charged to the Contractor.
PAGE 36

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The ~~Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.~~State of Tennessee , County of Montgomery shall be the respective jurisdiction and venue for any legal action arising out of or in connection with this Contract. The laws of the State of Tennessee shall apply with regard to construction, interpretation, performance and information pertaining to this Contract.
PAGE 37

§ 13.6 Limitation of Liability
The Contractor and his Subcontractors hereby certify that they are skilled and experienced in the use and interpretation of plans and specifications such as those included in the Contract Documents. The Contractor and his Subcontractors shall have carefully reviewed the plans and specifications and have found them free of ambiguities and sufficient for bid purposes. Further, the Contractor and his Subcontractors shall have based their bid solely on those documents, not relying in any way on any explanation or interpretation, oral or written, from any other source. Assured of the adequacy of the documents and the accuracy of his bid, the Contractor agrees and shall require his Subcontractors to agree to limit the liability of the Design Professional and the Owner for professional negligence, errors or omissions of the Design Professional to a total aggregate sum of $50,000 or the Design Professional's total fee for services rendered on this Project, whichever is greater. The Contractor and his Subcontractors do not assume any liability for damages to others caused by the professional negligence, errors or omissions of the Design Professional.

...

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and ~~profit on Work not executed,~~ profit, and costs incurred by reason of such termination.
PAGE 38

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of ~~Subcontracts; and the termination fee, if any, set forth in the Agreement.~~Subcontracts.
PAGE 39

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The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable ~~law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.~~law.

...

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be ~~given.~~ given and a statement of why additional time is necessary. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.
PAGE 40

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation ~~and binding~~ and/orbinding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

...

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute ~~resolution.~~resolution in a court of law.
PAGE 41

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute ~~resolution.~~resolutionin a court of law.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. ~~If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.~~

...

~~§ 15.4 Arbitration~~
~~§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party~~

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~~filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.~~

~~§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.~~

~~§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.~~

~~§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.~~

~~§ 15.4.4 Consolidation or Joinder~~
~~§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).~~

~~§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.~~

~~§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.~~

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_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, NY 14203

BOND AMOUNT: $

PROJECT:
(Name, location or address, and Project number, if any)
Northland Corridor Redevelopment Project Phase 4
631 Northland Ave.
Buffalo, NY 14211
Project No. 432607

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

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Signed and sealed this day of ,

	(Contractor as Principal) *(Seal)*
(Witness)	*(Title)*
	(Surety) *(Seal)*
(Witness)	*(Title)*

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PAGE 2

Signed and sealed this day of ~~,~~ .

Variable Information

PAGE 1

Buffalo Urban Development Corporation

95 Perry Street, Suite 404

Buffalo, NY 14203

NorthlandCorridor Redevelopment Project Phase 4

631 Northland Ave.

Buffalo, NY 14211

Project No. 432607

PAGE 2

Signed and sealed this day of ~~,~~ .

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(Signed)

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(Title)

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(Dated)

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Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Buffalo Urban Development Corporation
95 Perry Street
Buffalo, NY 14203

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount: $
Modifications to this Bond:

(Any additional signatures appear on the last page of this Payment Bond.)

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)
Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

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§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- **.1** the name of the Claimant;
- **.2** the name of the person for whom the labor was done, or materials or equipment furnished;
- **.3** a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- **.4** a brief description of the labor, materials or equipment furnished;
- **.5** the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- **.6** the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- **.7** the total amount of previous payments received by the Claimant; and
- **.8** the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of

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the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

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Variable Information

PAGE 1

OWNER:
(Name, legal status and address)
Buffalo Urban Development Corporation
95 Perry Street
Buffalo, NY 14203

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)
Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.

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Certification of Document's Authenticity

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_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA® Document A312® – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Buffalo Urban Development Corporation
95 Perry Street
Buffalo, NY 14203

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount: $
Modifications to this Bond:

(Any additional signatures appear on the last page of this Performance Bond.)

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)
Wendel WD Architecture, Engineering, Survey and Landscape Architecture, P.C.

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner

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shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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Variable Information

PAGE 1

OWNER:
(Name, legal status and address)
Buffalo Urban Development Corporation
95 Perry Street
Buffalo, NY 14203

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)
Wendel WD Architecture, Engineering, Survey and Landscape Architecture, P.C.

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Certification of Document's Authenticity

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_____

(Signed)

_____

(Title)

_____

(Dated)

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SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work by Owner.
5. Work under separate contracts.
6. Future work.
7. Purchase contracts.
8. Owner-furnished products.
9. Contractor-furnished, Owner-installed products.
10. Access to site.
11. Coordination with occupants.
12. Work restrictions.
13. Specification and drawing conventions.
14. Miscellaneous provisions.

1.3 PROJECT INFORMATION

A. Project Identification: Northland Corridor Redevelopment Phase 4

1. Project Location: 631 Northland Avenue, Buffalo, NY 14211

B. Owner: Buffalo Urban Development Corporation

1. Owner's Representative: Angelo Rhodes II
95 Perry Street, Buffalo, NY 14203
(716) 901-5386

2. Onsite Property Manager: Dennis Cannon
683 Northland Ave
Buffalo, NY 14211
dennis.cannon@comvestinc.com

C. Architect: Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C.
375 Essjay Rd., Suite 200, Williamsville, NY 14221
(716) 688-0766

D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Ravi Engineering & Land Surveying, P.C.: Structural, Geotechnical and Environmental (Hazardous Materials) Design & Engineering

2. Barbara A. Campagna Architecture & Planning, PLLC: Historic Preservation

3. LiRo Engineers Inc.: Brownfield Cleanup Environmental Engineering & Project Management

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Restoration of the 631 Northland Avenue historic approximate 40,000SF high bay industrial building listed on the National Register and accepted into the Brownfield Cleanup Program.
2. Construction activities include but are not limited to selective demolition of building components and systems, renovation, site and infrastructure improvements, hazardous material removal, and coordination with appropriate agencies supporting the historic nature of the building and required hazardous cleanup and testing.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

a. General Construction

1.5 CONSTRUCTION SCHEDULE

A. The Work shall be conducted in one (1) phase, with all work sequenced and planned by the Contractor accordingly to comply with project regulations and requirements. Work shall commence upon Notice to Proceed within 120 days of Bid due date and must be Substantially Complete within 20 months from the issuance of Notice to Proceed and no later than December 31, 2027.

B. Work included in the Contract includes providing all labor, materials, tools, equipment, and supervision, including safety supervision, related to or necessarily involved with the performance of the Work, as outlined in this section, as indicated on any drawings included in the contract documents, and in strict accordance with but not limited to the following specification sections and contract drawings:
1. DIVISION 00 – Procurement and Contracting Requirements (All Sections)
2. DIVISION 01 – General Requirements (All Sections)

3. Technical Specifications – All Sections as indicated on General (G), Civil (C), Structural, (S), Architectural (A), Mechanical (M), Plumbing (P), Fire Protection (FP), Electrical (E), Landscape Architecture (LA), and Hazardous Materials (HM) drawings.

C. The Contractor understands the pre-determined Work Schedule and will adequately staff the job to successfully complete the Contract Work in accordance with the project schedule and milestone dates. The Contractor's proposal is to be predicated on the project schedule milestone completion dates contained in the bidding documents. All costs associated with schedule recovery shall be at the Contractor's expense for failure to meet schedule dates.

D. It is expressly understood and agreed by the Contractor and the Owner that the time for Substantial Completion and certificates of occupancy are reasonable, taking into consideration average climatic variations, restrictions concerning use of the site, and other conditions prevailing.

E. The Contractor shall coordinate work with the Owner, Owner's Property Manager, Owner's consultants/testing agencies/other, and all of its subcontractors where sequencing and delineation of responsibility is involved, if applicable.

F. It is the responsibility of the Contractor to carefully interface all construction operations with the Project's historic and brownfield requirements and activities until they reach their final completion.

G. Before commencing Work submit an updated copy of Contractor's construction schedule showing the sequence, commencement, and completion dates for all phases of the Work

1.6 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

B. Preceding or Concurrent Work: Owner's Consultant has retained LiRo Engineers to perform the following construction operations at Project site.

1. Brownfield cleanup remedial investigation and ongoing remedial testing and investigations in accordance with the Remedial Action Work Plan (RAWP), NYSDEC and Brownfield Cleanup Program (BCP) requirements for this project.

2. The Contractor shall coordinate their work at the Project Site with remedial investigation and clean-up activities performed by LiRo Engineers on behalf of the Owner.

1.7 WORK UNDER SEPARATE CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

B. Preceding or Concurrent Work: Owner has a separate contract(s) for the new electrical service work with National Grid providing a new power service line to the Project site and building as identified on the Drawings. Those operations will be conducted either before or simultaneous with work under this Contract.

1.8 FUTURE WORK

A. The Contract Documents include requirements that will allow Owner to carry out future work following completion of this Project; provide for the following future work:

1. Tenant Fit Out/Build Out upon Owner agreement with a Tenant to occupy.

1.9 ACCESS TO SITE

A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep adjacent Project Site areas including driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of adjacent driveways and entrances by construction operations at adjacent properties.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.10 COORDINATION WITH OCCUPANTS

A. Owner and its tenants presently occupy adjacent site(s) and building(s). Coordinate and cooperate with Owner during construction operations to minimize conflicts and facilitate usage. Perform the Work so as not to interfere with Owner's day-to-day operations.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner’s Property Manager not less than (72) seventy-two hours in advance of activities that will affect Owner's operations.

1.11 CONTRACTOR USE OF PREMISES

A. Use of the Site: Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

1. Driveways and Entrances: Keep driveways and entrances serving the neighboring premises (683 Northland, etc.) clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
2. Owner’s existing parking lots are not to be used for parking of construction workers vehicles or staging of materials or equipment, unless authorized specifically by the Owner.
3. All deliveries to the Contractor at the site must be accepted at the site by the Contractor, regardless of time of delivery. The Owner will not accept deliveries for the Contractor at any time.

B. Throughout the construction period, repair any damage caused by weather or construction operations. Restore to new condition any lawn, pavement, sidewalk, etc., damage by construction and staging operations. Repair lawns with sod matching existing lawns, not with seed.

1.12 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.

1. Weekend Hours: Upon request and coordination with Owner.
2. Early Morning Hours: Upon request and coordination with Owner and as per typical restrictions by the authority having jurisdiction.
3. Hours for Utility Shutdowns: To be coordinated with Owner and adjacent operations.
4. Hours for noisy activities: To be coordinated with Owner and adjacent operations.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than five (5) calendar days in advance of proposed utility interruptions.
2. Obtain Architect's and/or Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Architect and Owner not less than three (3) calendar days in advance of proposed disruptive operations.
2. Obtain Architect and Owner's written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking is not permitted within the building or on the Project site at any time. There will be no exceptions.

F. Controlled Substances: Use of tobacco products and other controlled substances within the existing building and on Project site is not permitted.

G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.13 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents are abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

    a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

3. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.

3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.14 MISCELLANEOUS PROVISIONS

A. Copies of Drawings and Project Manuals: The Contractor is required to purchase from the Owner or Designated Printing Company the number of copies of the Drawings and Project Manual it requires for construction of the project. The Owner will not reimburse the Contractor for these copies.

B. Project Superintendent: The Owner must approve the Contractor's project superintendent for the work. Submit resume of proposed superintendent together with Bid.

1. Full Time Superintendent: The Contractor's project superintendent is required to be on site full time for the duration of the project or until such time as mutually agreed upon by the Owner, Architect and Contractor. No substitution of project superintendents by the Contractor after work begins will be allowed without prior approval by Architect and Owner.

C. Licensed Contractors/Subcontractors: Prime Contractor and all Subcontractors must be licensed to work in the City of Buffalo in each of their perspective fields of work on the Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 01 21 00 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor by the Architect and/or Owner. Additional requirements will be issued by Change Order, if any, by the Architect and/or Owner.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Unit-cost allowances.
3. Quantity allowances.
4. Contingency allowances.
5. Testing and inspecting allowances.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, inform Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect and Owner's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.4 ACTION SUBMITTALS

A. Submit detailed proposals with a breakdown of materials and labor for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit detailed invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit detailed time sheets and other documentation to show all necessary and incidental labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM, UNIT-COST, AND QUANTITY ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials for all necessary and incidental ordered by Owner or selected by Architect under allowance and shall include applicable taxes and freight and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not as part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect and/or Owner, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Architect and/or Owner for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor’s costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect/Owner under the contingency allowance **are included** in the allowance and are not part of the Contract Sum.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.9 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, submit a detailed Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measurement or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 01: Contingency Allowance

Allowance: Include the lump sum of $25,000. Includes but is not limited to unforeseen field conditions for use as directed by Architect and/or Owner for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

1. Any unused portion of this Allowance shall be returned to the Owner in the form of a credit change order at the conclusion of the project.

B. Allowance No. 02: Unsuitable Soils (Unit Cost)

Allowance: Include the sum of 2,500 CY at the unit price provided in the Bid Form. Include Removal and Replacement of Unsuitable Soil with Compacted Structural Fill above and beyond limits indicated on the drawings and within appropriate specification sections.

1. This allowance includes all necessary and incidental costs for equipment, materials, labor, tools, equipment, services, appurtenances, and Contractor and subcontractor overhead and profit costs to perform all work required at the Lump Sum prices as listed in the Bid Form. Each allowance shall include all costs to perform all work to provide a completely functional and code compliant assembly.
2. Any unused portion of this Allowance shall be returned to the Owner in the form of a credit change order at the conclusion of the project.

C. Allowance No. 03: Concrete Removal & Replacement (Unit-Cost)

Allowance: Include the sum quantity in 25SF increments or fractions thereof in addition to what is indicated on the drawings. Include twenty percent (20%) of the total ground floor level existing +/-6” thick concrete slab-on-grade and replace with added +/-6” thick reinforced concrete slab-on-grade beyond limits indicated on the drawings (S101A, etc.) and within appropriate specification sections.

1. This allowance includes all necessary and incidental costs for equipment, materials, labor, tools, equipment, services, appurtenances, and Contractor and subcontractor overhead and profit costs to perform all work required at the Lump Sum prices as listed in the Bid Form. Each allowance shall include all costs to perform all work to provide a completely functional and code-compliant assembly.
2. Any unused portion of this Allowance shall be returned to the Owner in the form of a credit change order at the conclusion of the project.

D. Allowance No. 04: Concrete Repair (Unit-Cost)

Allowance: Include the sum quantity in 25SF increments or fractions thereof in addition to what is indicated on the drawings. Include thirty five percent (35%) of the total ground floor level existing +/-6” thick concrete slab-on-grade concrete floor to repair existing concrete slab-on-

grade by means of grinding, cementitious patching, crack repair, etc. beyond limits indicated on the drawings (S101A, etc.) and within appropriate specification sections.

E. Allowance No. 05: Hazardous Materials Abatement (Unit-Cost)

Allowance: Include the sum quantities in 25SF increments or fractions thereof in addition to what's indicated on the drawings. Refer to the legend below as included on HM-100 for hazardous materials (asbestos, lead, etc.) removal/abatement list of what shall be properly removed and handled from the building as a result of previous testing and observation beyond limits indicated on the drawings (HM100, etc.) and within appropriate specification sections. A unit cost shall be provided for each legend item listed herein.

1. This allowance includes all necessary and incidental costs for equipment, materials, labor, tools, equipment, services, appurtenances, and Contractor and subcontractor overhead and profit costs to perform all work required at the Lump Sum prices as listed in the Bid Form. Each allowance shall include all costs to perform all work to provide a completely functional and code-compliant assembly.
2. Any unused portion of this Allowance shall be returned to the Owner in the form of a credit change order at the conclusion of the project.

Abatement Legend Applicable to HM-Drawing Series:
(AC Asbestos Containing)

FBI	AC Brown Fire Brick/Insulation
CLK1	AC Gray Door Caulk (interior)
CTG	AC Light Gray Cement Thin Set and AC Gray Grout
EFI	AC Black Electrical Floor Insulation
EINS	AC White Exterior Furnace Insulation
MJP	AC White Mudded Joint Packing, Elbows, & Fittings
RFLSH	AC Black Roof Flashing, Doors & Curbs
RGAS	AC Red Rope Gasket
TSI	AC White/Gray Thermal Systems Insulation (Elbows, Fittings & Pipe Runs)
WIC	AC Dark Gray Window Caulk
WIG	AC White Window Glaze
CC	AC Brown/Rd Canvas Cloth (Associated with Lintels)
LG	Leaded Glass
LBP1	Yellow Lead-Based Paint Associated with Catwalk/Stairs
LBP2	Blue Lead-Based Paint Associated with Exterior Doors and Rooftop Steel

F. Allowance No. 06: Hazardous-Containing Debris Removal (Unit-Cost)

Allowance: Include the sum quantities in 25SF increments or as appropriate in addition to what's indicated on the drawings. Include removal of asbestos-containing debris atop the existing wood block floor prior to wood block removal beyond limits indicated on the drawings (HM101, etc.)

and within appropriate specification sections.

1. This allowance includes all necessary and incidental costs for equipment, materials, labor, tools, equipment, services, appurtenances, and Contractor and subcontractor overhead and profit costs to perform all work required at the Lump Sum prices as listed in the Bid Form. Each allowance shall include all costs to perform all work to provide a completely functional and code-compliant assembly.
2. Any unused portion of this Allowance shall be returned to the Owner in the form of a credit change order at the conclusion of the project.

END OF SECTION 012100

SECTION 01 22 00 – DESCRIPTION OF BID ITEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specifications Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements and descriptions for bid items.

1.3 DESCRIPTION

A. The items listed below beginning with Article 1.5, refer to and are the same pay items listed in the Bid Form. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, ENGINEER'S and/or CONTRACTOR'S field offices, layout surveys, job signs, sanitary requirements, permits, testing, safety devices, approval and record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, test pits and all other requirements of the General Conditions, Supplementary Conditions, and the General Requirements. Compensation for all such services, things and materials shall be included in the prices stipulated for the lump sum and work unit price pay items listed herein.

B. The lump sum and unit bid prices will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

C. The CONTRACTOR shall furnish all labor, materials, tools, equipment, services, and all appurtenances necessary and incidental to perform all work required, at the unit or lump sum prices for the items listed in the Bid Form. Each bid item shall include all costs to perform all work to complete each item. Unit prices are applicable for the duration of the work through Final Completion.

D. Each of the bid items shall also include the cost required in supporting and protecting existing utilities while working under, over, or alongside or near the utility. Also included is the protection of overhead telephone, cable, electric power or other lines and the supporting of poles, if required. The cost of repairing any damage to the various utilities done during the installation of the work shall be included in the various bid items.

1.4 ENGINEER'S ESTIMATE OF QUANTITIES

A. ENGINEER'S estimated quantities for unit price pay items, as listed in the Bid Form, are approximate only and are included solely for the purpose of comparison of Bids. OWNER does not expressly or by implication agree that the nature of the materials encountered below

the surface of the ground or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity or to eliminate any quantity as OWNER may deem necessary. CONTRACTOR will not be entitled to any adjustment in a unit bid price as a result of any change in an estimated quantity and agrees to accept the aforesaid unit bid prices as complete and total compensation for any additions caused by changes or alterations in the Work ordered by OWNER.

1.5 BID ITEMS

A. ITEM 1– LUMP SUM COST OF CONSTRUCTION

1. Work Included:

a. The Contractor shall furnish all necessary and incidental labor, materials, tools, equipment and services necessary to complete the scope of work for the respective contract, as further detailed within specification section 011000 “Summary”.

2. Measurement:

a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the monthly amount of Work completed as agreed upon by the Owner, Architect, and Contractor.

3. Payment:

a. The lump sum price for this Item will be full compensation, as shown and specified.

B. ITEM 2 – CONTINGENCY ALLOWANCE NO. 01

1. Work Included:

a. Under this Item, the Contractor shall provide all necessary and incidental labor, tools, materials, and equipment required to include the specified allowance amounts in their bid as noted. Refer to additional information contained in specification section 012100 “Allowances” for further information.

2. Measurement:

a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed as agreed upon by the Owner, Architect, and Contractor through Change Order and detailed backup review and approval process.

3. Payment:

a. Payment for this item shall be made at the direction of the Owner and/or Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

C. ITEM 3 – UNSUITABLE SOILS REMOVAL/REPLACEMENT ALLOWANCE NO. 2

1. Work Included:

a. Under this Item, the Contractor shall provide all necessary and incidental labor, tools, materials, and equipment required to excavate all unsuitable soils necessary to reach suitable bearing grades and legally dispose of unsuitable materials offsite, and replace with properly compacted structural fill materials as specified, in accordance with the Geotechnical Investigation Report and as specifically ordered by the Owner's Third Party Special Inspections and Testing Agency.

b. Unauthorized excavation or over excavation, requiring structural fill shall be at the Contractor's expense.

2. Measurement:

a. Quantities paid for under this Item shall be the actual quantities of placed and compacted structural fill material as measured by the Contractor and approved by the Architect/Owner.

b. These quantities shall be tabulated by the Contractor and signed off daily by the Contractor through the duration of construction activity.

3. Payment:

a. Payment for this Item shall be made at the bid unit price per actual, in-place cubic yard which shall be full payment for work under this Item.

D. ITEM 4 – ALLOWANCES NO. 03 through 06

1. Work Included:

a. Under this Item, the Contractor shall provide all necessary and incidental labor, tools, materials, and equipment required to remove, excavate, replace, handle, legally dispose of, etc. as specified in accordance with the Geotechnical Investigation Report and/or Hazardous Materials Report(s), ordered by the Owner's Third-Party Special Inspections and Testing Agency or appropriate others. Refer to additional information contained in specification section 012100 "Allowances" for further information.

b. Unauthorized excavation/removal or over excavation/removal, requiring additional fill/abatement/disposal/handling/other shall be at the Contractor's expense.

2. Measurement:

   a. Quantities paid for under this Item shall be the actual quantities of placed or removal and fill material/abatement/disposal as measured by the Contractor and approved by the Architect/Owner.
   b. These quantities shall be tabulated by the Contractor and signed off daily by the Contractor through the duration of construction activity.

3. Payment:

   a. Payment for this Item shall be made at the bid unit price per actual, in-place square footage which shall be full payment for work under this Item.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 012200

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710 or similar, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect and/or Owner are not instructions either to stop work in progress or to execute the proposed change.
2. Within 14 calendar days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
    e. Quotation Form: Use forms acceptable to Architect/Owner.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect and Owner.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Proposal Request Form: Use form acceptable to Architect/Owner.

1.5 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

    a. Application for Payment forms with continuation sheets.
    b. Submittal schedule.
    c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect and Owner at earliest possible date, but no later than seven (7) calendar days before the date scheduled for submittal of initial Applications for Payment.
3. Sub-schedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide sub-schedules showing values coordinated with each element.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Names of Architect and Owner
c. Architect's and Owner's project number**(s)**.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.

3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:

a. Related Specification Section or Division.
b. Description of the Work.
c. Name of subcontractor.
d. Name of manufacturer or fabricator.
e. Name of supplier.
f. Change Orders (numbers) that affect value.
g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

1) Labor.
2) Materials.
3) Equipment.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five (5) percent of the Contract Sum.

a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five (5) percent of the Contract Sum and subcontract amount.

5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored but not yet installed.

a. Differentiate between items stored on-site and items stored off-site. Regardless of on- or off-site storage, provide evidence of insurance for such.

7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

    1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

    1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
    2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
    3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
    4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

    1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.

2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of liens and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Products list (preliminary if not final).
5. Schedule of unit prices.
6. Submittal schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of building permits.
10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
11. Initial progress report.
12. Report of preconstruction conference.
13. Certificates of insurance and insurance policies.
14. Performance and payment bonds.
15. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Final Release and Waiver of Mechanic’s Lien
5. AIA Document G707, "Consent of Surety to Final Payment."
6. Evidence that claims have been settled.
7. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
8. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. Requests for Information (RFIs).
4. Project meetings.

B. Each contractor shall cooperate and participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.3 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 21 calendar days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

    a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    f. Indicate required installation sequences.
    g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.

6. Mechanical and Plumbing Work: Show the following:

    a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    c. Fire-rated enclosures around ductwork.

7. Electrical Work: Show the following:

    a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
    b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
    c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
    d. Location of pull boxes and junction boxes, dimensioned from column center lines.

8. Fire-Protection System: Show the following:

    a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.

9. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.

10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
    1. File Preparation Format: DWG, AutoCAD, operating in Microsoft Windows operating system.
    2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.

    3. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.

        a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
        b. Digital Data Software Program: Drawings are available in AutoCAD operating in Microsoft Windows.
        c. Contractor shall execute a data licensing agreement in the form of Agreement included in this Project Manual.
        d. The signed Electronic Release Agreement for the full set of CAD files must be received by the Architect before digital data drawings are furnished to the Contractor.

1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
3. Architect will not review RFI’s submitted via fax or verbal requests.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Form immediately following this section.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Architect's Action: Architect, and Owner when/if appropriate, will review each RFI, determine action required, and respond. Allow five business days for Architect's response for each RFI. RFIs received by Architect after 2:00 p.m. will be considered as received the following business day.

1. The following Contractor-generated RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.

e. Requests for adjustments in the Contract Time or the Contract Sum.
f. Requests for interpretation of Architect's actions on submittals.
g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Owner in writing within 10 business days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's and/or Owner's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within five business days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

A. General: Where indicated, the contractor shall schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: **Contractor** shall inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: **Contractor** shall prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: **Contractor** shall be responsible for conducting meeting and will record significant discussions and agreements achieved. **Contractor** shall distribute the meeting minutes to everyone concerned, including Owner and Architect, within three business days of the meeting.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 business days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing (if applicable).
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Lines of communications.
    f. Procedures for processing field decisions and Change Orders.
    g. Procedures for RFIs.
    h. Procedures for testing and inspecting.
    i. Procedures for processing Applications for Payment.
    j. Distribution of the Contract Documents.
    k. Submittal procedures.
    l. Preparation of record documents.
    m. Use of the premises and existing building.
    n. Work restrictions.
    o. Working hours.
    p. Owner's occupancy requirements.
    q. Responsibility for temporary facilities and controls.
    r. Procedures for moisture and mold control.
    s. Procedures for disruptions and shutdowns.
    t. Construction waste management and recycling.
    u. Parking availability.
    v. Office, work, and storage areas.
    w. Equipment deliveries and priorities.
    x. First aid.
    y. Security.
    z. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Contractor shall conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction. Preinstallation conferences shall include conferences identified in individual Specification Sections.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and

installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

    a. Contract Documents.
    b. Options.
    c. Related RFIs.
    d. Related Change Orders.
    e. Purchases.
    f. Deliveries.
    g. Submittals.
    h. Review of mockups.
    i. Possible conflicts.
    j. Compatibility requirements.
    k. Time schedules.
    l. Weather limitations.
    m. Manufacturer's written instructions.
    n. Warranty requirements.
    o. Compatibility of materials.
    p. Acceptability of substrates.
    q. Temporary facilities and controls.
    r. Space and access limitations.
    s. Regulations of authorities having jurisdiction.
    t. Testing and inspecting requirements.
    u. Installation procedures.
    v. Coordination with other work.
    w. Required performance results.
    x. Protection of adjacent work.
    y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Contractor shall schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 calendar days prior to the scheduled date of Substantial Completion.

1. Contractor shall conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

    a. Preparation of record documents.
    b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    c. Submittal of written warranties.
    d. Requirements for preparing operations and maintenance data.
    e. Requirements for delivery of material samples, attic stock, and spare parts.
    f. Requirements for demonstration and training.
    g. Preparation of Contractor's punch list.
    h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    i. Submittal procedures.
    j. Coordination of separate contracts.
    k. Installation of Owner's furniture, fixtures, and equipment.
    l. Responsibility for removing temporary facilities and controls.

4. Minutes: Contractor shall record and distribute meeting minutes.

E. Progress Meetings: Contractor shall conduct progress meetings at biweekly intervals minimally.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

        1) Review schedule for next period.

    b. Review present and future needs of each entity present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.

8) Temporary facilities and controls.
9) Progress cleaning.
10) Quality and work standards.
11) Status of correction of deficient items.
12) Field observations.
13) Status of RFIs.
14) Status of proposal requests.
15) Pending changes.
16) Status of Change Orders.
17) Pending claims and disputes.
18) Documentation of information for payment requests.

4. Minutes: Contractor shall record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

F. Coordination Meetings: Contractor shall conduct Project coordination meetings at biweekly intervals, minimally. Project coordination meetings can be incorporated into the Project progress meetings. Attendees listed above shall be included at a minimum.

1. Attendees listed above under Progress Meetings shall be included at a minimum.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
c. Review present and future needs of each contractor present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.

10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Change Orders.

3. Reporting: Coordination discussions shall be included in the Progress Meeting minutes and distributed to everyone in attendance.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

REQUEST FORM FOR ELECTRONIC FILES

Requesting Entity Name ("Recipient")		**Name of Requesting Entity's Representative**	

Project Name	Northland Corridor Redevelopment Project Phase 4
Project Location	631Northland Ave., Buffalo, NY
Wendel Project Number	432607

Electronic Files		
Copies	**Date/Version**	**Name/Description of File**
(If more space is needed attach a list of the requested files hereto.)		

Purpose of Request:

Processing Fee: _____

In order to request electronic files from Wendel WD Architecture, Engineering, Surveying & Landscape Architecture P.C., (hereinafter "Wendel") this Request Form must be submitted to Wendel, fully executed and with no modifications. By submitting this Request Form the Recipient is entering into a contract, the Terms and Conditions of which are attached hereto and made a part hereof, and acknowledges that the Recipient has read this document, that the Recipient understands it and agrees to be bound by its terms.

In consideration of Recipient's acceptance of the terms of this Request Form, the sufficiency of which is hereby acknowledged, *Wendel grants Recipient a limited, nonexclusive, non-transferable license, subject to the attached Terms and Conditions, to temporarily save the original electronic files to storage media for viewing and printing, and the creation of derivative works therefrom, by Recipient solely for the Purpose stated above, which Purpose must be related to the Project named above.*

Each person signing this Agreement represents and warrants that he or she is duly authorized and has legal capacity to execute and deliver this Agreement.

Wendel	**Recipient**
_____	_____
Signature	*Signature*
Printed Name	*Printed Name*
Title	*Title*
Date	*Date*

REQUEST FORM FOR ELECTRONIC FILES
Terms and Conditions

Recipient understands and confirms that (i) the electronic files provided by Wendel may contain confidential and/or proprietary information and are each and all deemed confidential and proprietary, (ii) Recipient shall use not less than the same degree of care to avoid disclosure of the electronic files as it uses for its own confidential or proprietary Information of like importance, and (iii) Recipient must immediately notify Wendel of any known or suspected unauthorized use(s) of the electronic files.

The availability of electronic files is subject to the consent of the owner(s) of those electronic files. Wendel will not negotiate with nor repeatedly solicit another party to obtain their consent. Neither this Request Form nor any such separate party's consent may be assigned or transferred by Recipient to any other person or entity.

Electronic files and data, and the license for the limited use thereof hereby granted, are provided by Wendel only for the convenience of the Recipient, do not constitute or imply a grant of any rights, by license or otherwise, to Recipient under any patent, copyright, trade secret, or other intellectual property right, are not Project contract documents nor Instruments of Service of any licensed professional, shall not be construed as containing original signatures and seals of any licensed professionals, and are not intended to be deemed a sale of the electronic files and data to the Recipient; all right, title and interest in the electronic files belong to and shall remain with Wendel. The electronic files and data shall not be used by the Recipient for the construction or building of the Project, for additions to the Project, for completion of the Project by others, or on other projects.

Recipient may not remove or obscure any copyright notice or other notices contained in the electronic files. Recipient will not copy, alter, modify, disassemble, reverse engineer, decompile, or distribute, sell, rent, lease, lend or sub-license to any third party, any of the electronic files received from Wendel without the prior written consent of Wendel.

Wendel, at its sole discretion, may (i) modify the electronic files before they are provided to the Recipient. Such modifications may include, but are not necessarily limited to, removal of the seals of licensed professionals and certain confidential or proprietary information or (ii) refuse to provide some or all electronic files requested by Recipient.

WENDEL PROVIDES THE ELECTRONIC FILES SOLELY ON AN "AS IS" BASIS. NO REPRESENTATION OR WARRANTY IS MADE, EITHER EXPRESS OR IMPLIED, CONCERNING THE MERCHANTABILITY OF THE ELECTRONIC FILES AND DATA OR THEIR FITNESS FOR A PARTICULAR PURPOSE. Wendel shall not be responsible for and the Recipient assumes all risks associated with the receipt, use and possession of the electronic files. Recipient waives any and all claims against and shall defend, indemnify and hold harmless Wendel, its sub-consultants, subcontractors, agents, and the owners, partners and employees of each of them, from and against any and all third party claims, suits, losses, direct, indirect, consequential, punitive or special damages, costs and expenses, including but not limited to attorney's fees, arising out of, resulting from, or in connection with the Recipient's possession, use, modification or distribution of the electronic files and data provided by Wendel. The waiver, defense and indemnification obligations set forth in this paragraph shall survive any use of the electronic files provided under this Request Form.

Recipient agrees it shall have no right to furnish or provide the electronic files in any litigation, administrative proceeding, arbitration or mediation against Wendel, its sub-consultants, subcontractors, agents, and the owners, partners and employees of each of them, except with the express written consent of Wendel.

Upon conclusion or expiration of the stated Purpose, Recipient will return or destroy all the electronic files received from Wendel. Recipient will retain no copies of the electronic files, unless both parties agree that such return or destruction is not feasible, Recipient will then extend the protection of the confidentiality requirements set forth herein to the electronic files not returned or destroyed, and refrain from further use or disclosure of such electronic files or their content for as long as Recipient retains the electronic files.

The Recipient understands and acknowledges that any disclosure or misappropriation of any of the electronic files, or the confidential or proprietary data or Information contained therein, in violation of this contract may cause Wendel irreparable harm, the amount of which may be difficult to ascertain, and therefore agrees that Wendel shall have the right to apply to a court of competent jurisdiction for an order restraining and enjoining such disclosure or breach and for such other relief as Wendel shall deem appropriate. Such right of Wendel is to be in addition to the remedies otherwise available to Wendel at law or in equity. The Recipient expressly waives (i) the defense that a remedy in damages will be adequate and (ii) any requirement in an action for injunction for the posting of a bond by Wendel. If any action at law or in equity is brought to enforce or interpret the provisions of this contract, the prevailing party in such action shall be awarded its attorneys' fees and costs incurred.

This Request Form shall be interpreted and construed in accordance with the laws of the State of New York. If one or more of the provisions contained herein is found to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not be affected. Such invalid, illegal or unenforceable provisions shall be revised only to the extent necessary to make them enforceable. Recipient agrees to submit to jurisdiction and venue in the state and federal courts of Erie County, New York for any dispute which may arise hereunder.

This Request Form contains all applicable terms and conditions relating to the provision of the requested electronic files to the Recipient by Wendel. No other terms and conditions apply. This Request Form is not a part of, subject to, nor a modification of the terms and conditions of any bid documents or contract documents of the Project named above.

REQUEST FOR INFORMATION

Contractor Name

Address:
City, State, Zip:

Phone:
Fax:

Project No.

Contractor RFI No.: _____ **DATE:** _____

TITLE: _____ **JOB:** _____

PROJECT: **REQUIRED:** _____

TO: Wendel
375 Essjay Road, Suite 200
Williamsville, New York, 14221

ATTN: PAA (PAA @wendelccompanies.com)

QUESTION:

ANSWER:

Note: the response to this RFI is for clarification of the contract documents. The response is **NOT** authorization to proceed with additional work.

Answered By:_____ Date:_____

SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including but not limited to, the following:

1. Preliminary construction schedule.
2. Contractor's construction schedule.
3. Submittal schedule.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Special reports.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Event: The starting or ending point of an activity.

C. Float: The measure of leeway in starting and completing an activity.

1. Float time belongs to Owner.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF electronic file.

B. Qualification Data for Scheduling Consultant: For consultant or in-house persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience.

C. Preliminary construction schedule.

1. Approval of startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

D. Submittals Schedule: Submit submittals schedule, conforming to dates on the Contractor's Construction Schedule. Include any required submittals not included on the schedule. Arrange the following information in a tabular format:

1. Scheduled dates for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational)
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's and Owner's final release or approval.

E. Contractor's Construction Schedule: Submit on 11"x17" paper for review as required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using MS Project or equivalent approved software, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

F. Daily Construction Reports: Submit at weekly intervals.

G. Material Location Reports: Submit at monthly intervals.

H. Site Condition Reports: Submit at time of discovery of differing conditions.

I. Special Reports: Submit at time of unusual event.

J. Two Week Look-Ahead Schedules: Submit at weekly intervals.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: If necessary, an experienced specialist in scheduling and reporting, with capability of producing schedule reports and diagrams within 24 hours of Architect's request. This shall be a consultant to the contractor or an in-house scheduling specialist, if approved by Owner.

B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination". Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including work stages, area separations, interim milestones.
4. Review delivery dates for Owner-furnished products, if any.
5. Review schedule for work of Owner's separate contracts.
6. Review submittal requirements and procedures.
7. Review time required for review of submittals and resubmittals.
8. Review requirements for tests and inspections by independent testing and inspecting agencies.
9. Review time required for Project closeout and Owner startup procedures.
10. Review and finalize list of construction activities to be included in schedule.
11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTAL SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required per construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor’s Construction Schedule.
2. Initial Submittal: Submit within 10 business days of Notice to Proceed. Include submittals required during the first 60 calendar days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor’s Construction Schedule. Update monthly as required.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial and Final Completion.

1. Contract completion date(s) shall not be changed by submission of a schedule that shows a late completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Include the following:

1. Activity Duration
2. Procurement Activities
3. Submittal Review Time
4. Startup and Testing Time
5. Commissioning
6. Substantial Completion
7. Punch List and Final Completion

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date as provided or as indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product, if any. Include delivery date as provided or as indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:

a. Coordination with existing adjacent construction.
b. Uninterruptible services.
c. Use of premises restrictions.
d. Provisions for future construction.
e. Seasonal variations.
f. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

a. Subcontract awards.
b. Submittals.
c. Purchases.
d. Mockups.
e. Fabrication.
f. Sample testing.

g. Deliveries.
h. Installation.
i. Tests and inspections.
j. Adjusting.
k. Curing.
l. Building flush-out.
m. Startup and placement into final use and operation.
n. Commissioning

8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

a. Structural completion.
b. Temporary enclosure and space conditioning.
c. Permanent space enclosure.
d. Completion of mechanical installation.
e. Completion of electrical installation.
f. Substantial Completion.
g. Final Completion.

9. Other Constraints: State Historic Preservation/National Parks Service, Environmental abatement, handling, haul off, Brownfield Cleanup Program, etc. as necessary.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion**,** and the following interim milestones:

1. Environmental activities
2. Temporary enclosure and space conditioning.
3. Others as requested by the Architect and/or Owner.

E. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

F. Computer Scheduling Software: Prepare schedules using current version of MS Project or approved program that has been developed specifically to manage construction schedules.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 calendar days of date established for the Notice of Award. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain/ snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (see special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests, commissioning, and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.
20. Locations of Work.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report.

List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

C. Two Week Look-Ahead Schedules: Contractor will submit a 2 week look-ahead schedule each week on a specific day of the week to be determined at the Preconstruction meeting. Each schedule will show specific work activities over that 2 week period and also areas of coordination required with other contractors and involved entities. These schedules will also show delivery dates of critical material or equipment items.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: If necessary, Contractor shall engage and pay for a consultant to provide planning, evaluation, and reporting.

1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor demonstrates they employ skilled personnel with experience in construction scheduling and reporting techniques. Submit qualifications.
2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

C. Distribution: Distribute copies of approved schedule to Architect**,** Owner, separate contractors, testing and inspecting agencies, and other parties identified by Owner with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples and other submittals.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information, and physical samples that require Architect’s responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information, and physical samples that do not require Architect’s responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

D. Portable Document Format (PDF): An open standard for electronic documents, licensed by Adobe Systems, used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

E. Cloud-Based Construction Management Software Application (CMSA): Any of a number of proprietary file management collaborative systems intended for internet-connected device use. The intent of these applications is to enable dispersed users access to shared documents for storage, organization, retrieval, editing, tracking, reporting or other functions, with such access usually controlled by invitation and security protocols. More than one such application type or specific programs may be used, depending on Owner preferences.

1. Project preferred CMSA: Procore.

1.4 SUBMITTAL PROCEDURES

A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.

a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
b. Digital Drawing Software Program: The Contract Drawings are available in PDF and/or AutoCAD.
c. Contractor shall execute a data licensing agreement in the form included in Project Manual.

1) To request electronic files, complete “Request Form for Electronic Files”.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserve(s) the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence upon Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow [10] ten business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow [**7**] seven business days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow [**10**] ten additional business days for initial review of each submittal.

5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow [15] fifteen business days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

6. Transmittal for Sample Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor. Transmit each submittal using the transmittal form at the end of this section.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

    a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner and Architect**,** containing the following information:

    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name of Contractor.
    e. Name of firm or entity that prepared submittal.
    f. Names of subcontractor, manufacturer, and supplier.
    g. Category and type of submittal.
    h. Submittal purpose and description.
    i. Specification Section number and title.
    j. Specification paragraph number or drawing designation and generic name for each of multiple items.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Related physical samples submitted directly.
    n. Indication of full or partial submittal.
    o. Transmittal number
    p. Submittal and transmittal distribution record.
    q. Other necessary identification.
    r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:

a. Project name.
b. Number and title of appropriate Specification Section.
c. Manufacturer name.
d. Product name.

E. Options: Identify options requiring selection by Architect.

F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect’s action stamp**s.**

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect’s and action stamp**s**.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Color charts showing full range of available colors.
d. Manufacturer catalog cuts.
e. Wiring diagrams showing factory-installed wiring.
f. Printed performance curves.
g. Operational range diagrams.

h. Mill reports.
i. Standard product operating and maintenance manuals.
j. Compliance with recognized trade association standards.
k. Compliance with recognized testing agency standards.
l. Application of testing agency labels and seals.
m. Notation of coordination requirements.

4. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams showing factory-installed wiring.
b. Printed performance curves.
c. Operational range diagrams.
d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shop work manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.
l. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than sheet size used for Contract Document Drawings.
4. Number of Copies: One electronic file copy of each submittal. Architect will return with action to the Contractor for distribution. Contractor shall make necessary copies from the returned print.

D. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of

materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
    a. Generic description of Sample.
    b. Product name or name of manufacturer.
    c. Sample source.
4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
    b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar construction characteristics.
5. Number of Samples for Initial Selection: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
6. Number of Samples for Verification: Submit two full sets of Samples. Architect will retain one Sample set; remainder will be returned marked with action taken to the Contractor for distribution.
    a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
7. Disposition: Contractor to maintain one set of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

E. Submittals requiring compliance with other sections in the Project Manual.
1. Contractor's Construction Schedule.
2. Submittals Schedule.
3. Application for Payment.
4. Schedule of Values.
5. Subcontract List.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by individual Specification Sections and elsewhere in the Contract Documents.

1. Number of Copies: Submit one electronic Submittal unless otherwise indicated. Architect will not return copies, unless they are rejected for noncompliance with the Contract Documents.
2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."

B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

I. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.

J. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

K. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.

L. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

M. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment.

O. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

Q. Manufacturers Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

R. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

S. Material Safety Data Sheets: Keep on site and submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

2.3 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file of certificate, signed and sealed by the responsible design professional licensed in the jurisdiction of the Project for each product, assembly or system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Architect's Action:
    a. Final Unrestricted Release: When the Architect marks a submittal "No Exceptions Taken" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
    b. Final-But-Restricted Release: When the Architect marks a submittal "Provide as Corrected," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
    c. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay.
        1) Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
    d. Returned for Resubmittal: When the Architect marks a submittal "Rejected", the Architect has not completed a full review, because it is clear that the submittal does not reflect the requirements of the Contract Documents. Do not proceed with work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal that complies with the Contract Documents.
    e. Other Action: If the submittal is primarily for information purposes, record purposes, special processing, or other contractor activity, the submittal will be returned marked "Reviewed for General Conformance Only". These submittals have been received and processed for information only and not approved or disapproved by the architect.

C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with Contract Document requirements.

D. Submittals not required by the Contract Documents will not be reviewed and will be discarded or returned without action.

END OF SECTION 013300

wendel

Submittal No. _____

Submittal Transmittal

PROJECT: Northland Corridor Redevelopment Project Phase 4 PROJECT #: 432607

OWNER: _____ A/E: _____

CONTRACT # & NAME _____

CONTRACTOR: _____
(NAME, ADDRESS, TELEPHONE & FAX NUMBERS)

☐ NEW SUBMITTAL ☐ RESUBMITTAL Date: _____

This submittal is: ☐ AS SPECIFIED REMARKS: _____

NUMBER OF COPIES SUBMITTED: (8 maximum) _____

TYPE OF SUBMITTAL: ***(CHECK ALL THAT APPLY)***

( ) SHOP DRAWINGS
( ) SAMPLE
( ) COLOR SELECTION
( ) SCHEDULE
( ) WARRANTY
( ) TEST REPORT
( ) PRODUCT DATA/CATALOG CUT
( ) RECORD DOCUMENT
( ) PERFORMANCE DATA
( ) OPERATIONS & MAINTENANCE DATA
( ) OTHER _____

SPEC. SECTION: _____

PARAGRAPH(S): _____

DWG. REF. NO.: _____

CONTRACTOR CERTIFICATION

CONTRACTOR CERTIFIES THAT THE INFORMATION SUBMITTED COMPLIES WITH THE CONTRACT DOCUMENT REQUIREMENTS.

By: _____

Date: _____

NOTE: Contractor shall apply an approval stamp to each copy of each submittal.

DESCRIPTION OF SUBMITTAL: _____

PRODUCT NAME: _____

MANUFACTURER: _____

ADDRESS: _____ TEL. NO.: _____

CONTRACTOR or SUBCONTRACTOR: _____ TEL. NO.: _____

SUPPLIER: _____ TEL. NO.: _____

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
   2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
   3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
   4. Specific test and inspection requirements are not specified in this Section.

1.3 SUBMITTALS

A. Refer to Specification Section 013300 "Submittal Procedures".

1.4 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within 14 calendar days of Notice to Proceed, and not less than seven calendar days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

B. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
   1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
   2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections." Refer to Section 014110 “Special Inspections".

3. Owner-performed tests and inspections indicated in the Contract Documents, including tests and inspections indicated to be performed by the Commissioning Authority, if applicable.

C. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.5 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
   1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Mockups: Before installing portions of the Work requiring mockups, if any, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
   1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect .
   2. Obtain Architect's approval of mockups before starting work, fabrication, or construction.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
   1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
   2. Payment for these services will be reviewed, agreed upon with the Contractor, and made by the Owner as per the agreement with testing agency specific to owner-responsible testing activities.
   3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
   1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
   2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
      a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
   3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
   4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

C. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

D. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
   1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Refer to Specification Section 014110 “Special Inspections".

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
   1. Date test or inspection was conducted.
   2. Description of the Work tested or inspected.
   3. Date test or inspection results were transmitted to Architect.
   4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect and Owner reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
   1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 014110 - TESTING LABORATORY AND SPECIAL INSPECTOR SERVICES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the *2020 Building Code of New York State*.

B. Special Inspectors and Structural Testing shall be in accordance with *CASE National Practice Guideline for Special Inspections.*

C. The program of Special Inspection and Structural Testing is a Quality Assurance Program intended to ensure that the work is performed in accordance with the Contract Documents.

D. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Special Inspector, Testing Laboratory, and other Agents of the Special Inspector of their requirements and responsibilities.

E. Related sections include:
1. Section 031000 - Concrete Formwork
2. Section 033000 – Cast-In-Place Concrete
3. Section 033200 – Concrete Reinforcing
4. Section 034100 – Precast Concrete
5. Section 042200 – Concrete Unit Masonry
6. Section 051200 – Structural Steel Framing
7. Section 053100 – Steel Decking
8. Section 055000 – Metal Fabrications
9. Section 310000 – Earthwork Broadscope
10. Section 312000 – Earthwork for Structures
11. Section 314100 – Shoring and Bracing
12. Section 315000 – Excavation Support and Protection
13. Section 316329 – Drilled Concrete Piers (Caissons)

F. Required inspections and tests are described in the individual specification sections for the items to be inspected or tested and the "Schedule of Special Inspections", which is included at the end of this Section.

1.2 SELECTION AND PAYMENT

A. Owner may employ and pay for services of a Materials Testing Laboratory and a Special Inspector to perform specified inspections and testing in compliance with the 2020 Building Code of New York State, Chapter 17 "Structural Tests and Inspections" regarding concrete, structural steel, masonry, wood framing and fireproofing. These may be separate firms or the same firm.

B. If any materials which require Special Inspections are fabricated in a plant which is not located within 100 miles of the project, the Contractor shall be responsible for the travel expenses of the Special Inspector or Testing Laboratory.

C. The Contractor shall be responsible for the cost of any retesting or reinspection of work, which fails to comply with the requirements of the Contract Documents.

1.3 QUALITY ASSURANCE

A. Testing Laboratory: Authorized to operate in New York State, approved by the Structural Engineer of Record (SEOR) and Code Enforcement Office of the jurisdiction for the State of New York.

B. Special Inspector: Shall be a licensed Professional Engineer, Geotechnical Engineer or Structural Engineer who is qualified and approved by the Code Enforcement Official of the jurisdiction wherein the project is located.

C. The Testing Laboratory shall maintain a full-time licensed Professional Engineer, Geotechnical Engineer, or Structural Engineer on staff who shall certify all test reports. The Engineer shall be responsible for the training of the testing technicians and shall be responsible charge of the field and laboratory testing operations.

D. Comply with requirements of appropriate, governing ANSI/ASTM, OHSA & EPA Standards., 2020 Building Code of New York State.

E. Special Inspections shall be performed by inspectors who are either licensed Professional Engineers (P.E.), Geotechnical Engineer, Structural Engineers (S.E.), or Intern Engineer (I.E.) with an education and background in structural engineering except as indicated below.
   1. Special Inspections of soils may be performed by inspectors with an education and background in geotechnical engineering in lieu of a background in structural engineering.
   2. Technicians performing sampling and testing of concrete shall be ACI certified *Concrete Field Testing Technicians - Grade 1*.
   3. Inspectors performing inspections of concrete work such as inspections of concrete placement, batching, reinforcing placement, curing and protection, may be AIC certified *Concrete Construction Inspectors* or ICBO certified *Reinforced Concrete Special Inspector* in lieu of being a license P.E., S.E., or EIT.
   4. Technicians performing visual inspection of welding shall be AWS *Certified Welding Inspectors* or ICBO certified *Structural Steel and Welding Special Inspectors*, technicians performing non-destructive testing such as ultrasonic testing, radiographic testing, magnetic particle testing, or dye-penetrant testing shall be certified as an ASNT-TC Level II or Level III technician.
   5. Technicians performing standard tests described by specific ASTM Standards shall have training in the performance of such tests and must be able to demonstrate either by oral or written examination competence for the test to be conducted. They shall be under the supervision of a licensed Professional Engineer and shall not be permitted to independently evaluate test results.

1.4 TESTING LABORATORY AND SPECIAL INSPECTOR RESPONSIBILITIES (For Reference Only)

A. Provide qualified personnel at site. Cooperate with the Owner, the Architect, the Engineer or their Representative, and the Contractors, in performance of services.

B. Perform specified inspection, sampling, and testing in accordance with appropriate standards.

C. Verify compliance of materials and methods with requirements of Contract Documents.

D. Promptly notify the Owner, General Contractor or their Representative, and Architect, of observed irregularities or non-conformance.

E. Perform additional inspection and testing as may be required by the Owner or their Representative. Perform re-inspection and/or re-testing, of the Work as necessary.

F. Maintain appropriate records of material placement, test locations, etc.

1.5 SUBMITTALS

A. If requested, the Special Inspector and Testing Laboratory shall submit to the SEOR (Structural Engineer of Record) and Building Official for review a copy of their qualifications which shall include the names and qualifications of each of the individual inspectors and technicians who will be performing inspections or tests.

B. The Special Inspector and Testing Laboratory shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Sub-contractors whose work will be inspected or tested.

1.6 LIMITS OF TESTING LABORATORY/ or SPECIAL INSPECTOR AUTHORITY

A. Laboratory/or Special Inspector may not release, revoke, alter, or enlarge on requirements of Contract Documents; they should, however, advise the Office of the Architect of any discrepancies, errors, omissions, etc., from the Contract Documents, which may relate to this Section.

B. Laboratory/or Special Inspector may not approve or accept any portion of the Work, except where approval of conformance is required to allow subsequent work to proceed.

C. Laboratory /or Special Inspector may not assume any duties of Contractor.

D. Laboratory/or Special Inspector has no authority to stop the Work; they are, however, authorized to immediately notify parties involved of non-complying conditions.
In addition, they are authorized (in extreme cases) to refuse to allow use of materials which would adversely affect the work; examples would be non-complying soils materials which would be covered over by subsequent work; concrete to which significantly excessive water has been added, etc.

1.7 CONTRACTOR RESPONSIBILITIES

A. **Without exception, work which fails to comply with the requirements of the Contract Documents or work which has not been inspected must be immediately removed and replaced, at the Contractor's cost.**

B. The Contractor shall cooperate with the Special Inspector and their agents so that the

Special Inspections and testing may be performed without hindrance.

C. The Contractor shall review the *Statement of Special Inspections* and shall be responsible for coordinating and scheduling inspections and tests. The Contractor shall notify the Special Inspector or Testing Laboratory at least 24 hours in advance of a required inspection or test. Uninspected work that required inspection may be rejected solely on that basis.

D. The Contractor shall provide incidental labor and facilities to provide access to the work to be inspected or tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.

E. The Contractor shall keep at the project site the latest set of construction drawings, field sketches, approved shop drawings, and specifications for use by the inspectors and testing technicians.

F. The Special Inspection Program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control Program. All work that is to be subjected to Special Inspections shall first be reviewed by the Contractor's quality control personnel.

G. The Contractor shall be solely responsible for construction site safety.

1.8 STATEMENT OF SPECIAL INSPECTIONS

A. The Statement of Special Inspections will be prepared by the Structural Engineer of Record (SEOR) and shall be submitted with the Application or Building Permit, if required by authority having jurisdiction.

1.9 RECORDS AND REPORTS

A. Detailed daily reports shall be prepared of each inspection or test and submitted to the Special Inspector. Reports shall include:
1. Date of test or inspections.
2. Name of inspector or technician.
3. Location of specific areas tested or inspected.
4. Description of test or inspection and results.
5. Applicable ASTM standard.
6. Weather conditions.
7. Engineer's seal and signature.

B. The Special Inspector shall submit interim reports to the Building Official, if required, which include all inspections and test reports received during that period. Copies shall be sent to the SEOR, Architect, and Contractor.

C. Any discrepancies from the Contract Documents found during a Special Inspection shall be immediately reported to the Contractor. If the discrepancies are not corrected, the Special Inspector shall notify the SEOR, the Architect, and Building Official. Reports shall document all discrepancies identified and have the corrective action taken.

D. The Testing Laboratory shall immediately notify the Special Inspector and the SEOR by

telephone, fax, or e-mail of any results which fail to comply with the requirements of the Contract Documents.

E. Reports shall be submitted to the Special Inspector within 7 days of the inspection or test. Hand written reports may be submitted if final typed copies are not available.

F. At the completion of the work requiring Special Inspections, each inspection agency and testing laboratory shall provide a statement to the Special Inspector that all work was completed in substantial conformance with the Contract Documents and that all appropriate inspections and tests were performed.

1.10 FINAL REPORT OF SPECIAL INSPECTIONS

A. The *Final Report of Special Inspections* shall be completed by the Special Inspector and submitted to the SEOR and Building Official prior to the issuance of a Certificate of Use and Occupancy.

B. The *Final Report of Special Inspections* will certify that all required inspections have been performed and will itemize any discrepancies that were not corrected or resolved.

C. A copy of the Final Report of Special Inspections is included at the end of this Section.

1.11 - SEE SCHEDULE OF INSPECTION SERVICES ON FOLLOWING PAGES.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable

Project: *Buffalo Urban Development Corporation – Industrial Manufacturing Building*

Location: *631 Northland Ave, Buffalo, NY 14211*

Owner: *Buffalo Urban Development Corporation*

Owner's Address:
95 Perry Street 404
Buffalo, NY

Design Professional in Responsible Charge: *Ravi Engineering & Land Surveying, P.C.*
2110 S. Clinton Ave Suite 1, Rochester NY

Architect of Record:

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompass the following disciplines:

☒ Structural ☐ Mechanical/Electrical/Plumbing
☐ Architectural ☐ Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge within 24 hours of discovery. The Special Inspection program does not relieve the Contractor of his or her responsibilities. Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy. Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: *Weekly* or ☐ per attached

Prepared by:

Douglas S. Webber, P.E.
(type or print name)

06/27/2025
Signature Date

Draft not for construction

Design Professional Seal

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☒ Soils and Foundations
- ☒ Cast-in-Place Concrete
- ☒ Precast Concrete
- ☐ Shotcrete
- ☐ Masonry Level 1
- ☒ Masonry Level 2
- ☒ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☒ Steel Decking
- ☐ Prefabricated Wall Panels
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Prefabricated Wood Trusses
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases
- ☒ Cast In Place Deep Foundations

Special Inspection Agencies & #	Firm	Address, Telephone
Special Inspector (1)	*To be determined by owner*	
Testing Laboratory (2)	*To be determined by owner*	
Geotechnical Engineer (3)	*To be determined by owner*	

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Quality Assurance Plan for Seismic Resistance

Seismic Design Category	*A*
Quality Assurance Plan Required (Y/N)	*N*

Description of seismic force resisting system and designated seismic systems:
Steel Ordinary Concentrically Braced Frames / Steel Ordinary Moment Frames

Quality Assurance Plan for Wind Requirements

Basic Wind Speed (3 second gust)	*116 mph*
Wind Exposure Category	*C*
Quality Assurance Plan Required (Y/N)	*N*

Description of wind force resisting system and designated wind resisting components:
Steel Ordinary Concentrically Braced Frames / Steel Ordinary Moment Frames

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations.
EIT	ngineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1.
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2.
ACI-STT	Strength Testing Technician.

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector.
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector

Other

SCSI	Smoke Control Special Inspector
PE/ME	Mechanical/Electrical/Plumbing Engineer – a licensed PE specializing in the design of mechanical, electrical and plumbing building systems
RA	Registered Architect specializing in the design of architectural building systems

2020 NYS BUILDING CODE
STATEMENT OF SPECIAL INSPECTIONS

BCNYS §1704.3 requires that the project Registered Design Professional in responsible charge prepare a Statement of Special Inspections. Completion of this Statement of Special Inspections and submission to the Code Compliance Unit with the Construction Permit Application is a condition for issuance of the Construction Permit.

Facility: Industrial Manufacturing Building – 631 Northland Ave, Buffalo, NY		
Project Title: Industrial Manufacturing Building		
Project #: 432607	**Project Manager:**	
Registered Design Professional (RDP):		
Name of Person Completing Statement: Doug Webber, P.E. – RE&LS, Rochester, NY	**Phone:** 585-223-3660	**Date:** 1-20-2023
Comments:		

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
A. Special Cases (Add requirements under Part S as necessary)			1705.1.1			Special Inspections and Tests shall be required for proposed work that is, in the opinion of t building official, unusual in its nature.
B. Steel Construction.			1705.2			
1. Structural Steel			1705.2.1			
a. Inspection tasks prior to welding;			1705.2.1			AISC 360 Table N5.4-1
i. Welding procedure specifications (WPSs) available	X		1705.2.1	☒		AISC 360 Table N5.4-1
ii. Manufacturer certifications for welding consumables available	X		1705.2.1	☒		AISC 360 Table N5.4-1
iii. Material identification (type/grade)		X	1705.2.1	☒		AISC 360 Table N5.4-1
iv. Welder identification system		X	1705.2.1	☒		AISC 360 Table N5.4-1 The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
v. Fit up of groove welds (including joint geometry)		X	1705.2.1	☒		AISC 360 Table N5.4-1
vi. Configuration and finish of access holes		X	1705.2.1	☒		AISC 360 Table N5.4-1
vii. Fit-up of fillet welds		X	1705.2.1	☒		AISC 360 Table N5.4-1
viii. Check Welding equipment		X	1705.2.1	☒		AISC 360 Table N5.4-1
b. Inspection Tasks During Welding			1705.2.1			AISC 360 Table N5.4-2
i. Use of qualified welders.		X	1705.2.1	☒		AISC 360 Table N5.4-2
ii. Control and Handling of welding consumables.		X	1705.2.1	☒		AISC 360 Table N5.4-2
iii. No welding over cracked tack welds.		X	1705.2.1	☒		AISC 360 Table N5.4-2
iv. Environmental Conditions		X	1705.2.1	☒		AISC 360 Table N5.4-2
v. Verify WPS followed		X	1705.2.1	☒		AISC 360 Table N5.4-2
vi. Verify Welding Techniques		X	1705.2.1	☒		AISC 360 Table N5.4-2
c. Inspection Tasks after Welding			1705.2.1			AISC 360 Table N5.4-3
i. Welds cleaned		X	1705.2.1	☒		AISC 360 Table N5.4-3
ii. Size, length, and location of welds	X		1705.2.1	☒		AISC 360 Table N5.4-3
iii. Welds meet visual acceptance criteria	X		1705.2.1	☒		AISC 360 Table N5.4-3
iv. Arc strikes	X		1705.2.1	☒		AISC 360 Table N5.4-3
v. K-area			1705.2.1	☒		AISC 360 Table N5.4-3; When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. (75mm) of the weld.
vi. Backing removed and weld tabs removed (if required)	X		1705.2.1	☒		AISC 360 Table N5.4-3
vii. Repair activities	X		1705.2.1	☒		AISC 360 Table N5.4-3
viii. Document acceptance or rejection of welded joint or member	X		1705.2.1	☒		AISC 360 Table N5.4-3
d. Inspection Tasks Prior to Bolting			1705.2.1			AISC 360 Table N5.6-1
i. Manufacturer's	X		1705.2.1	☒		AISC 360 Table N5.6-1

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
certification available for fastener materials						
ii. Fasteners marked in accordance with ASTM requirements		X	1705.2.1	☒		AISC 360 Table N5.6-1
iii. Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)		X	1705.2.1	☒		AISC 360 Table N5.6-1
iv. Proper bolting procedure selected for joint detail		X	1705.2.1	☒		AISC 360 Table N5.6-1
v. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.		X	1705.2.1	☒		AISC 360 Table N5.6-1
vi. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.		X	1705.2.1	☒		AISC 360 Table N5.6-1
vii. Proper storage provided for bolts, nuts, washers and other fastener components.		X	1705.2.1	☒		AISC 360 Table N5.6-1
e. Inspection Tasks During Bolting			1705.2.1			AISC 360 Table N5.6-2
i. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.		X	1705.2.1	☒		AISC 360 Table N5.6-2
ii. Joint brought to the snug-tight condition prior to the pretensioning operation.		X	1705.2.1	☒		AISC 360 Table N5.6-2
iii. Fastener component not turned by the wrench prevented from rotating.		X	1705.2.1	☒		AISC 360 Table N5.6-2
iv. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically		X	1705.2.1	☒		AISC 360 Table N5.6-2

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
from the most rigid point toward the free edges.						
f. Inspection Tasks After Bolting			1705.2.1			AISC 360 Table N5.6-3
i. Document acceptance or rejection of bolted connections.	X		1705.2.1	☒		AISC 360 Table N5.6-3
g. Inspection of Steel Elements of Composite Construction Prior to Concrete Placement			1705.2.1			AISC 360 Table N6.1
i. Placement and installation of steel deck.	X		1705.2.1	☐		AISC 360 Table N6.1
ii. Placement and installation of steel headed stud anchors.	X		1705.2.1	☐		AISC 360 Table N6.1
iii. Document acceptance or rejection of steel elements	X		1705.2.1	☐		AISC 360 Table N6.1
2. Cold-Formed Steel Deck			1705.2.2	☒		
a. Inspection or Execution Tasks prior to Deck Placement			1705.2.2			SDI QA/QC Table 1.1
i. Verify compliance of materials (deck and all deck accessories) with construction documents, including profiles, material properties, and base metal thickness.	X		1705.2.2	☒		SDI QA/QC Table 1.1
ii. Document acceptance or rejection of deck and deck accessories.	X		1705.2.2	☒		SDI QA/QC Table 1.1
b. Inspection or Execution Tasks after Deck Placement						SDI QA/QC Table 1.2
i. Verify compliance of deck and all deck accessories installation with construction documents.	X		1705.2.2	☒		SDI QA/QC Table 1.2
ii. Verify deck materials are represented by the mill certifications that comply with the construction documents.	X		1705.2.2	☒		SDI QA/QC Table 1.2
iii. Document acceptance	X		1705.2.2	☒		SDI QA/QC Table 1.2

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
or rejection of installation of deck and deck accessories.						
c. Inspection or Execution Tasks Prior to Welding			1705.2.2			SDI QA/QC Table 1.3
i. Welding Procedure Specifications (WPS) available.		X	1705.2.2	☒		SDI QA/QC Table 1.3
ii. Manufacturer certifications for welding consumables available		X	1705.2.2	☒		SDI QA/QC Table 1.3
iii. Material identification (type/grade).		X	1705.2.2	☒		SDI QA/QC Table 1.3
iv. Check welding equipment.		X	1705.2.2	☒		SDI QA/QC Table 1.3
d. Inspection or Execution Tasks during Welding			1705.2.2			SDI QA/QC Table 1.4
i. Use of qualified welders.		X	1705.2.2	☒		SDI QA/QC Table 1.4
ii. Control and handling of welding consumables.		X	1705.2.2	☒		SDI QA/QC Table 1.4
iii. Environmental conditions (wind speed, moisture, temperature).		X	1705.2.2	☒		SDI QA/QC Table 1.4
iv. Verify WPS followed.		X	1705.2.2	☒		SDI QA/QC Table 1.4
e. Inspection or Execution Tasks after Welding			1705.2.2			SDI QA/QC Table 1.5
i. Verify size and location of welds, including support, sidelap, and perimeter welds.	X		1705.2.2	☒		SDI QA/QC Table 1.5
ii. Welds meet visual acceptance criteria.	X		1705.2.2	☒		SDI QA/QC Table 1.5
iii. Verify repair activities.	X		1705.2.2	☒		SDI QA/QC Table 1.5
iv. Document acceptance or rejection of welds.	X		1705.2.2	☒		SDI QA/QC Table 1.5
f. Inspection or Execution Tasks prior to Mechanical Fastening			1705.2.2			SDI QA/QC Table 1.6
i. Manufacturer installation instructions available for mechanical fasteners.		X	1705.2.2	☒		SDI QA/QC Table 1.6

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
ii. Proper tools available for fastener installation.		X	1705.2.2	☒		SDI QA/QC Table 1.6
iii. Proper storage for mechanical fasteners.		X	1705.2.2	☒		SDI QA/QC Table 1.6
g. Inspection or Execution Tasks during Mechanical Fastening			1705.2.2			SDI QA/QC Table 1.7
i. Fasteners are positioned as required.		X	1705.2.2	☒		SDI QA/QC Table 1.7
ii. Fasteners are installed in accordance with manufacturer's instructions.		X	1705.2.2	☒		SDI QA/QC Table 1.7
h. Inspection or Execution Tasks after Mechanical Fastening			1705.2.2			SDI QA/QC Table 1.8
i. Check spacing, type, and installation of support fasteners.	X		1705.2.2	☒		SDI QA/QC Table 1.8
ii. Check spacing, type, and installation of sidelap fasteners.	X		1705.2.2	☒		SDI QA/QC Table 1.8
iii. Check spacing, type, and installation of perimeter fasteners.	X		1705.2.2	☒		SDI QA/QC Table 1.8
iv. Verify repair activities.	X		1705.2.2	☒		SDI QA/QC Table 1.8
v. Document acceptance or rejection of mechanical fasteners.	X		1705.2.2	☒		SDI QA/QC Table 1.8
3. Open-Web Steel Joists and Joist Girders			1705.2.3			
a. Installation of open-web steel joists and joist girders			Table 1705.2.3	☐		
i. End connections – welded or bolted.		X	Table 1705.2.3	☐		SJI Specifications listed in Section 2207.1.
ii. Bridging – Horizontal or diagonal.			Table 1705.2.3			
a. Standard bridging.		X	Table 1705.2.3	☐		SJI Specifications listed in Section 2207.1.
b. Bridging that differs from the SJI specifications listed in Section 2207.1		X	Table 1705.2.3	☐		
4. Cold-Formed Steel Trusses spanning 60 feet or Greater		X	1705.2.4	☐		The Special Inspector shall verify that the temporary restraint/bracing and the permanent individual truss

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
						member restraint/bracing are installed in accordance with the approved truss submittal package.
C. Concrete Construction			1705.3			
1. Inspect reinforcement, including prestressing tendons, and verify placement.		X	Table 1705.3	☒		ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 IBC 1908.4
2 Reinforcing Bar Welding:			Table 1705.3 1705.3.1			AWS D1.4, ACI 318: 26.6.4
a. Verify weldability of reinforcing bars other than ASTM A706:		X	Table 1705.3	☒		AWS D1.4 ACI 318: 26.6.4
b. Inspect single pass fillet welds, maximum 5/16"; and		X	Table 1705.3	☒		AWS D1.4 ACI 318: 26.6.4
c. Inspect all other welds	X		Table 1705.3	☒		AWS D1.4 ACI 318: 26.6.4
3. Inspect anchors cast in concrete.		X	Table 1705.3	☒		ACI 318: 17.8.2
4. Inspect anchors post-installed in hardened concrete members.		X	Table 1705.3	☒		
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X		Table 1705.3	☒		ACI 318: 17.8.2.4
b. Mechanical anchors and adhesive anchors not defined in item 4a.		X	Table 1705.3	☒		ACI 318: 17.8.2
5. Verify use of required design mix		X	Table 1705.3	☒		ACI 318: Ch. 19, 26.4.3, 26.4.4 IBC 1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of concrete.	X		Table 1705.3	☒		ASTM C172, ASTM C31; ACI 318: 26.4, 26.12; IBC 1908.10
7. Inspect concrete and shotcrete placement for proper application	X		Table 1705.3	☒		ACI 318: 26.5; IBC 1908.6, 1908.7, 1908.8

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
techniques.						
8. Verify maintenance of specified curing temperature and techniques.		X	Table 1705.3	☒		ACI 318: 26.5.3-26.5.5 IBC: 1908.9
9. Inspect Prestressed concrete for:			Table 1705.3	☐		
a. Application of prestressing forces; and	X		Table 1705.3	☐		ACI 318: 26.10
b. Grouting of bonded prestressing tendons	X		Table 1705.3	☐		ACI 318: 26.10
10. Inspect erection of precast concrete members		X	Table 1705.3	☒		ACI 318: Ch. 26.8
11. Verify in-situ concrete strength, prior to stressing tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.		X	Table 1705.3	☐		ACI 318: 26.11.2
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.		X	Table 1705.3	☒		
D. Masonry Construction (Check LA, LB or LC below) ☐ LA = Level A Quality Assurance ☒ LB = Level B Quality Assurance ☐ LC = Level C Quality Assurance			1705.4			TMS 402/ACI530/ASCE5 TMS 602/ACI530.1/ASCE6
Level A Quality Assurance: Minimum Verification						
A1. Prior to construction, verify certificates of compliance used in masonry construction.		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.1
Level B Quality Assurance: Minimum Special						

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
Inspections						
B1. Verify Compliance with approved submittals.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2: As masonry construction begins, verify that the following are in compliance:				☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2a: Proportions of site-prepared mortar.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2b: Construction of Mortar Joints.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2c: Grade and size of prestressing tendons and anchorage.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2d: Location of reinforcement, connectors, and prestressing tendons and anchorage.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2e: Prestressing technique.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B2f: Properties of thin bed mortar for AAC masonry.	X	X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2 Continuous inspection required for the first 5000sf of AAC Masonry, Periodic inspection is required after the first 5000sf of AAC masonry.
B3. Prior to grouting, verify that the following are in compliance:		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B3a: Grout space.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B3b: Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorage.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B3c: Placement of reinforcement, connectors, and prestressing tendons and anchorage.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B3d: Proportions of site-prepared grout for bonded tendons.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B3e: Construction of mortar joints.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4: Verify during construction:		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
B4a: Size and location of structural elements.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4b: Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4c: Welding of reinforcement.	X			☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4d: Preparation, construction, and protection of masonry during cold weather (temperature below 40dF) or hot weather (temperature above 90dF)		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4e: Application and measurement of prestressing force.	X			☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4f: Placement of grout and prestressing grout for bonded tendons is in compliance.	X			☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B4g: Placement of AAC masonry units and construction of thin-bed mortar joints.	X	X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2 Continuous inspection required for the first 5000sf of AAC Masonry, Periodic inspection is required after the first 5000sf of AAC masonry.
B5: Observe preparation of grout specimens, mortar specimens, and/or prisms.		X		☒		TMS 402/ACI530/ASCE5 Table 3.1.2
Minimum Tests						
B6: Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with Specification Article 1.5B1.b.3 for self-consolidating grout.				☒		TMS 402/ACI530/ASCE5 Table 3.1.2
B7: Verification of f'm and f'aac in accordance with Specification Article 1.4B prior to construction,				☒		TMS 402/ACI530/ASCE5 Table 3.1.2

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
except where specifically exempted by this Code.						
Level C Quality Assurance: Minimum Special Inspections						
C1. Verify compliance with the approved submittals.		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2. Verify that the following are in compliance:				☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2a. Proportions of site mixed mortar, grout and prestressing grout for bonded tendons.		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2b. Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages.		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2c. Placement of masonry units and construction of mortar joints.		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2d. Placement of reinforcement, connectors, and prestressing tendons and anchorages.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2e. Grout spacing prior to grouting.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2f. Placement of grout and prestressing grout for bonded tendons.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2g. Size and location of structural elements.		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2h. Type, size, and location of anchors including other details of anchorage of masonry to structural members, frames, or other construction.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2i. Welding of reinforcement.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2j. Preparation, construction, and protection of masonry		X		☐		TMS 402/ACI530/ASCE5 Table 3.1.3

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
during cold weather (temperature below 40dF) or hot weather (temperature above 90dF).						
C2k. Application and measurement of prestressing force.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2l. Placement of AAC masonry units and construction of thin-bed mortar joints.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C2m. Properties of thin-bed mortar for AAC masonry.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
C3. Observe preparation of grout specimens, mortar specimens, and/or prisms.	X			☐		TMS 402/ACI530/ASCE5 Table 3.1.3
Minimum Tests						
D1. Verification of f'm and f'AAC in accordance with Specification Article 1.4B prior to construction and for every 5,000sf during construction.				☐		TMS 402/ACI530/ASCE5 Table 3.1.3
D2. Verification of proportions of materials in premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout, as delivered to the project site.				☐		TMS 402/ACI530/ASCE5 Table 3.1.3
D3. Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with Specification Article 1.5B.1.b.3 for self-consolidating grout.				☐		TMS 402/ACI530/ASCE5 Table 3.1.3
E. Wood Construction			1705.5			
1. High Load Diaphragms		X	1705.5.1	☐		
2. Metal Plate Connected Wood Trusses spanning 60 feet or Greater		X	1705.5.2	☐		
F. Soils			1705.6			
1. Verify materials below		X	Table 1705.6	☒		

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
shallow foundations are adequate to achieve the design bearing capacity.						
2. Verify excavations are extended to a proper depth and have reached proper material.		X	Table 1705.6	☒		
3. Perform classification and testing of compacted fill materials.		X	Table 1705.6	☒		
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X		Table 1705.6	☒		
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.		X	Table 1705.6	☒		
G. Driven Deep Foundations			1705.7			
1. Verify element materials, sizes and lengths, comply with the requirements.	X		Table 1705.7	☐		
2. Determine capacities of test elements and conduct additional load tests, as required.	X		Table 1705.7	☐		
3. Inspect driving operations and maintain complete and accurate records for each elements.	X		Table 1705.7	☐		
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	X		Table 1705.7	☐		
5. For steel elements, perform additional special	-	-	Table 1705.7	☐		

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
inspections in accordance with Section 1705.2.						
6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	-	-	Table 1705.7	☐		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	-	-	Table 1705.7	☐		
H. Cast-in-place Deep Foundations			1705.8			
1. Inspect drilling operations and maintain complete and accurate records for each element.	X		Table 1705.8	☒		
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes.	X		Table 1705.8	☒		
3. For concrete elements, perform tests and additional special inspections in accordance with Section 1705.3.	-	-	Table 1705.8	☒		
I. Helical Pile Foundations	X		1705.9			
J. Fabricated Items			1705.10 1704.2.5			Where fabrication of structural, load-bearing, or lateral load resisting members or assemblies being conducted on the premises of a fabricators shop
1. Structural Steel		X		☐		
2. Steel Joists		X		☐		
3. Precast Concrete		X		☐		
4. Wood Construction		X		☐		

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
K. Special Inspections for Wind Resistance			1705.11			RDP to identify the main windforce-resisting systems and wind-resisting components that are subject to special inspection per BCNYS Section 1704.3.3.
1. Structural Wood	X	X	1705.11.1	☐		Shear Walls
2. Cold Formed steel light framed Construction		X	1705.11.2	☐		
3. Wind-resisting Components		X	1705.11.3	☐		
L. Special Inspections for Seismic Resistance			1705.12			RDP to identify the designated seismic systems and seismic force-resisting systems that are subject to special inspection per BCNYS Section 1704.3.2.
1. Structural Steel		X	1705.12.1	☐		AISC 341 Section J
2. Structural Wood	X	X	1705.12.2	☐		
3. Cold Formed steel light framed Construction		X	1705.12.3	☐		
4. Designated seismic systems	X	X	1705.12.4	☐		ASCE 7 Section 13.2.2
5. Architectural Components		X	1705.12.5	☐		
6. Plumbing, Mechanical, and Electrical Components		X	1705.12.6	☐		
7. Storage Racks		X	1705.12.7	☐		
8. Seismic Isolation Systems		X	1705.12.8	☐		
9. Cold Formedsteel special bolted moment frames		X	1705.12.9	☐		
M. Testing for Seismic Resistance			1705.13			
1. Structural Steel		X	1705.13.1	☐		
2. Nonstructural Components		X	1705.13.2	☐		
3. Designated Seismic Systems		X	1705.13.3	☐		
4. Seismic Isolation Systems		X	1705.13.4	☐		
N. Sprayed Fire-Resistant Materials			1705.14			
1. Physical and visual tests		X	1705.14.1	☐		
2. Structural Member		X	1705.14.2	☐		

INSPECTIONS AND TESTS (Continuous & Periodic is as defined by the BCNYS)	CONTINUOUS	PERIODIC	BCNYS REFERENC	CHECK IF REQUIRED	SPECIFICATION REFERENCE AND CLARIFYING NOTES	COMMENTARY/NOTES and REFERENCE STANDARDS
Surface Conditions						
3. Application		X	1705.14.3	☐		
4. Thickness		X	1705.14.4	☐		
5. Density		X	1705.14.5	☐		
6. Bond Strength		X	1705.14.6	☐		
O. Mastic and Intumescent Fire-Resistant Coatings		X	1705.15	☐		
P. Exterior Insulation and Finish Systems (EIFS)			1705.16			
1. Exterior Insulation and Finish Systems (EIFS)		X	1705.16	☐		
2. Water Resistive Barrier Coating		X	1705.16.1	☐		
Q. Fire-Resistant Penetrations and Joints			1705.17			
1. Penetration Firestops		X	1705.17.1	☐		
2. Fire-resistant joint systems		X	1705.17.2	☐		
R. Testing for Smoke Control			1705.18			
1. Testing Scope		X	1705.18.1	☐		
2. Qualifications		X	1705.18.2	☐		
S. Additional Special Inspections/Tests			The registered design professional of record shall identify if additional tests and inspections defined by BC Section 1705.1.1 are required and provide specific requirements below.			
1.						
2.						
3.						
4.						
5.						
6.						
7.						

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END OF SECTION 01 41 10

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect or Owner **[Construction Manager]**. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

J. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

K. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations.

E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.

B. Contractor's cost of, or for establishing their own temporary services or facilities will not be accepted as a basis of claim for an adjustment in Contract Sum or Contract Time. Charges for establishing temporary utility service must me borne by the Contractor receiving the service.

C. Contractor is responsible for power associated with temporary field office and storage units including installation, hook-ups, and consumption and use charges.

D. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations.

E. Water Service: Pay water-service use charges for water used by all entities for construction operations.

F. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Refer to Specification Section 013300 "Submittal Procedures".

B. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

C. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

E. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
   1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
   2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
   3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

F. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
   1. Locations of dust-control partitions at each phase of work.
   2. HVAC system isolation schematic drawing.
   3. Location of proposed air-filtration system discharge.
   4. Waste handling procedures.
   5. Other dust-control measures.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines, ICC/ANSI A117.1 and local jurisdictional requirements, whichever is more stringent.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Compliant with authority having jurisdiction requirements Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails.

B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

C. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

D. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Contractor's Field Office: Of sufficient size to accommodate needs of construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:
   1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
   2. Conference room/area of sufficient size to accommodate meetings of 12 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-footsquare tack and marker boards.
   3. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.

C. Storage and Fabrication Sheds: Provide on or offsite sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
   1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control as needed.
   1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
   2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
   3. Permanent HVAC System: Use of permanent HVAC system is not permitted during construction.

PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.
   1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
   1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

E. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
   1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

G. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
   1. Install electric power service overhead or underground as arranged with the power company.
   2. Connect temporary service to Owner's existing power source, as directed by Owner.

H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
   1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Coordinate use of access and traffic through the existing driveway on the east side of the building with Owner and Owner's Property Manager. That driveway is not part of the project/construction limits and requires coordination.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Provide temporary parking areas for construction personnel.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

F. Project Identification and Temporary Signs: Prepare Project identification and other signs in sizes indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.
1. Project signage shall comply with Owner and funding requirements to be drafted, reviewed and approved prior to print.
2. Engage an experienced sign painter to apply graphics for Project identification signs. Comply with details indicated, or if not indicated, provide 4 foot by 8 foot sign comprised of ¾ inch exterior grade plywood mounted on 4 x 4 preservative treated wood posts set 4 feet into the ground. Sign content and layout as directed by Architect. Submit shop drawings for approval prior to fabrication and installation.
3. Prepare temporary signs to provide directional information to construction personnel and visitors.
4. Construct signs of exterior-type Grade B-B high-density concrete form overlay plywood in sizes and thicknesses indicated. Support on posts or framing of preservative-treated wood or steel.
5. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer.

6. Maintain and touchup signs so they are legible at all times.

G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

I. Temporary Elevator Use: An elevator does not presently exist at the building. If needed, the Contractor shall provide a construction elevator to complete their work in accordance with the Contract Documents.

J. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

K. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs consistent with Contract Documents.
1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

L. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
1. Comply with work restrictions specified in Section 011000 "Summary."

C. Temporary Erosion and Sedimentation Control: Comply with requirements specified in Section 311000 "Site Clearing” and/or Stormwater Pollution Prevention Plan (SWPPP).

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Comply with requirements specified in Section 031000 "Site Clearing."

F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.

1. Pest Control must include practices and a plan to mitigate pests from spreading to adjacent occupied buildings creating pest control issues across the campus.

G. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
   1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
   2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

J. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

K. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
   1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

L. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration throughout selective demolition as required to separate areas from fumes and noise.

M. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
   1. Prohibit smoking in construction areas.
   2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
   3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

N. Snow and Ice Removal:
   1. All labor, material, and equipment necessary for snow removal whenever there is an accumulation of two (2) or more inches, in areas of the field trailers, parking areas, staging areas, building ingress and egress and internal site access roads.
   2. If snow accumulation is such that snow must be hauled off site due to insufficient storage space, this shall be done at no additional cost to the Owner.
   3. Provide all necessary labor, equipment and materials required for the removal of ice and other slippery conditions of the building entrances and building work areas at no cost to the Owner. Use of rock salt on existing and new concrete surfaces is prohibited.
   4. All labor, material, and equipment necessary to maintain a clear path at all the access and egress points to the building including but not limited to the removal of snow and ice for the entire duration of the Project.

O. Ground Thaw: Provide all labor, material, and equipment necessary for ground thawing for the installation of underground activities.

3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace, or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

D. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
   2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
   3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in other Division 01 sections.

END OF SECTION 015000

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project, product delivery, storage, handling, manufacturers' standard warranties on products, special warranties and comparable products.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system" and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged, reused or repurposed from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance and other characteristics that are equivalent or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis of design" or “basis of design product" including make, model number or other designation to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) business days of receipt of request, or five (5) business days of receipt of additional information or documentation, whichever is later.

    a. Form of Approval: As specified in Section 013300 Submittal Procedures.
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis of Design Product Specification Submittal: Comply with requirements in Section 013300 Submittal Procedures. Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.

2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, and with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment by covering construction.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage, and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location and security procedures with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 Closeout Procedures.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products for Contractor's convenience will not be considered.
3. Products:

    a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products for Contractor's convenience will not be considered.
    b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

    a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products for Contractor's convenience will not be considered.
    b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis of Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, and that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of Architects and Owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. Installation of the Work.
   4. Cutting and patching.
   5. Correction of the work.
   6. Progress cleaning.
   7. Dust control.
   8. Starting and adjusting.
   9. Protection of installed construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

A. Refer to Section 013300: Submittal Procedures and related environmental specification sections.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Historic Preservation of the building as reviewed and approved by New York State applicable agencies.
   2. Visual qualities of sight exposed elements.
   3. Changes to In-Place (Existing) Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
   4. Integrity of weather exposed or moisture resistant element.
   5. Efficiency, maintenance, or safety of any operational element.

6. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
7. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations prepared by Contractor's licensed Professional Engineer showing integration of reinforcement with original structure.
8. Work of Owner of separate contractor/subcontractor

C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.5 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection and load-deflection ratio. Structural elements include the following:
    a. Primary structural systems.
    b. Secondary and miscellaneous structural systems.
    c. Lintels.
    d. Bearing walls and retaining walls.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
    a. Primary operational systems and equipment.
    b. Fire separation assemblies.
    c. Air or smoke barriers.
    d. Fire-suppression systems.
    e. Mechanical systems piping and ducts.
    f. Control systems.
    g. Communication systems.
    h. Fire-detection and -alarm systems.
    i. Conveying systems.
    j. Electrical wiring systems.
    k. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
   a. Water, moisture, or vapor barriers.
   b. Membranes and flashings.
   c. Exterior curtain-wall construction.
   d. Sprayed fire-resistive material.
   e. Equipment supports.
   f. Piping, ductwork, vessels, and equipment.
   g. Noise- and vibration-control elements and systems.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

PART 3 EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions and the cost of any and all remedial work required due to installation on unacceptable surfaces and substrates or under improper conditions shall be borne by the Contractor.

E. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility and/or Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
1. Refer to Section 011000 “Summary of Work” for utility interruptions.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to RFI requirements in other Division 1 sections.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a licensed land surveyor to lay out the Work using accepted surveying practices.
   1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
   2. Establish limits on use of Project site.
   3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
   4. Inform installers of lines and levels to which they must comply.
   5. Check the location, level and plumb, of every major element as the Work progresses.
   6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
   7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference.

3.4 FIELD ENGINEERING

A. Identification: Refer to drawings for existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
   1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
   2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
   2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.

3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
   1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
   2. Allow for building movement, including thermal expansion and contraction.
   3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
      a. Clean piping, conduit, and similar features before applying paint or other finishing materials.

b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
   a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in this Specification Section.
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces in kind.

3.8 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

3.9 PROGRESS CLEANING

A. General: Maintain and clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
   2. Do not hold waste materials more than seven calendar days during normal weather or three calendar days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
      a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
5. Do not transport construction debris through occupied areas of existing facilities.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Maintain and clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Public Roads: Roads shall be cleared of all mud, dust, debris, etc. on a daily basis or as directed by Architect or Owner or authority having jurisdiction.

E. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

F. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

G. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

H. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in other Section 015000 "Temporary Facilities and Controls" or Section 017419 "Construction Waste Management and Disposal" and other appropriate hazardous waste specification sections.

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

L. Responsibilities of the Contractor(s) :
1. The Contractor shall provide and service dumpsters for the use of all Contractors.
2. Dumpsters shall be located at each site, accessible to building and roads. Each Contractor may legally load acceptable construction debris into the Dumpsters from this project only. Cost of all disposal fees shall be by the Contractor and dumpsters shall remain on the project until project completion, or as directed by Owner. The Contractor shall secure dumpsters during off-hours. This excludes asbestos items.
3. The Contractor is responsible for clean-up and disposal of waste materials, debris and rubbish on a daily basis.
4. The Owner may issue written notification of insufficient cleaning relative to the requirements of this Section. Upon issuance of the cleaning notice:

a. All waste and accumulation of trash containing the Contractor’s debris shall be removed from the Owner's premises within 24 hours of notification.
b. All designated project areas containing the Contractor's debris or requiring general housekeeping shall be left fine broom clean (interior) or raked clean (exterior or rough surface). Sweeping compound shall be used for all interior broom cleaning to control dust.
c. Failure by the Contractor to comply with the 24 hour requirement of the notice to the satisfaction of the Owner will result in a cleaning program directed by the Owner at the expense of the Contractor. Cost of clean-up performed by the Owner will be deducted from the Contractor's Request for Payment.

5. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
6. Daily clean interior areas to provide suitable conditions for work.
7. Broom clean interior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.
8. Control cleaning operations so that dust and other particles will not adhere to wet or newly-coated surfaces.
9. Remove waste materials, debris, and rubbish from site or to a dumpster provided by the Contractor daily.
10. The Contractor shall provide end-of-day clean-up of work areas of all prime contractors on a daily basis, conforming to requirements above.

3.10 DUST CONTROL

A. The Contractor shall at all times control the spread of dust and dirt during the execution of the work. Use water mist, temporary closures, and other suitable methods. Use wet saws for cutting. Provide walk-off mats at entrances and exits to construction areas.
1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions.
2. Wet mop floors to eliminate trackable dust and dirt and wipe down walls and doors of dust and dirt.

3.11 STARTING AND ADJUSTING

A. Refer to separate appropriate specification sections for startup and adjusting of equipment and operating components by the appropriate contractor(s). This includes yet is not limited to:
1. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
2. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
3. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
4. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.12 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

C. Supervise construction operations to ensure that in progress work is not stored on and/or effects completed construction such as floors and walls, which are subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

D. Roof Areas:
   1. Construction traffic and storage of materials of materials on completed roof surfaces is not allowed. Where work is required, the contractor shall submit a protection plan, 14 calendar days prior to scheduled commencement of the work. Protection plan to include the following: Type of work to be performed.
   2. Location of work areas.
   3. Route of materials and workers to work area.
   4. Materials and methods to be used.
   5. Proceed with work after Owners authorization. Damage to roof surfaces shall be repaired and the cost of any and all remedial work shall be borne by the Contractor.

END OF SECTION 017300

SECTION 017419 - DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contract Requirements and General and Supplementary Conditions from the Division 00 and 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:
   1. Recycling nonhazardous demolition and construction waste.
   2. Disposing of nonhazardous demolition and construction waste.

1.3 RELATED REQUIREMENTS:

A. Specification/Project Manual Appendix Reports

B. Applicable and appropriate Division 01 specification sections

C. Existing Conditions Division 02 specification sections

1.4 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

1.5 SUBMITTALS

A. Waste Management Plan: Submit plan within 14 days of date established for commencement of the Work.

B. Recycling and Processing Facility Records: **If applicable** indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

C. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.6 QUALITY ASSURANCE

A. Waste Management Conference: Conduct conference at Project site prior to commencement of work and/or as part of Construction kick off meeting.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Address hazardous material disposal.
   1. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

3.2 DISPOSAL OF WASTE

A. Disposal of all waste shall be addressed in the Demolition and Construction WAste Management Plan, including but not limited to:
   1. Land clearing debris: Debris shall not be considered in calculations but must be accounted for in plan.
   2. Hazardous material: Safe removal and disposal as noted in DIV 02 and related sections. Materials to be excluded in calculations but addressed in the Demolition and CWM Plan.
   3. The refrigerant recovery and recycling shall be provided per EPA. LEED, and local code requirements.
   4. Waste oils, lubricants and diesel shall be sent for suitable re-use, recovery, treatment or disposal as appropriate per local code, LEED, and EPA requirements.

5. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
6. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
7. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
8. Burning: Do not burn waste materials.
9. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Substantial Completion procedures.
   2. Final completion procedures.
   3. Warranties.
   4. Final cleaning.
   5. Repair of the Work.

1.3 ACTION SUBMITTALS

A. Refer to Section 013300 "Submittal Procedures".

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
   1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
   3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect and/or Owner. Label with manufacturer's name and model number where applicable.
      a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's and/or Owner's signature for receipt of submittals.
   5. Submit test/adjust/balance records.
   6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 business days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
   1. Advise Owner of pending insurance changeover requirements.
   2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
   3. Complete startup and testing of systems and equipment.
   4. Perform preventive maintenance on equipment used prior to Substantial Completion.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
   6. Advise Owner of changeover in heat and other utilities.
   7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
   8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   9. Complete final cleaning requirements, including touchup painting.
   10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and/or Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
   2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
   1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
   2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
   3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Submit pest-control final inspection report.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and/or Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Contractor shall prepare Punch List to include the following: name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
   1. Organize list of spaces in sequential order, starting with exterior areas first.
   2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
   3. Include the following information at the top of each page:
      a. Project name.
      b. Date.
      c. Name of Architect
      d. Name of Contractor.
      e. Page number.
   4. Submit list of incomplete items in the following format:

a. MS Excel electronic file. Architect, , will return annotated file.
b. PDF electronic file. Architect, will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
1. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

PART 2 PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations as well as in accordance with historic preservation regulations.

B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
4. Remove tools, construction equipment, machinery, and surplus material from Project site.
5. Remove snow and ice to provide safe access to building.
6. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
7. Sweep concrete floors broom clean in unoccupied spaces.
8. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
9. Remove labels that are not permanent.

10. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
11. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
12. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
13. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
    a. Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.
14. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
15. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls" and Section 017419 "Construction Waste Management and Disposal"

E. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner’s property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
   1. Demonstration of operation of systems, subsystems, and equipment.
   2. Training in operation and maintenance of systems, subsystems, and equipment.

1.3 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module.

1.4 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Operation and maintenance data shall be reviewed and approved by Architect prior to training.

PART 2 PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop a simple instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: For each module, include instruction for the following as applicable to the system, equipment, or component:
   1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
      a. System, subsystem, and equipment descriptions.
      b. Performance and design criteria if Contractor is delegated design responsibility.

c. Operating standards.
d. Regulatory requirements.
e. Equipment function.
f. Operating characteristics.
g. Limiting conditions.

2. Documentation: Review the following items in detail:
   a. Emergency manuals.
   b. Operations manuals.
   c. Maintenance manuals.
   d. Project record documents.
   e. Identification systems.
   f. Warranties and bonds.
3. Emergencies: Include the following, as applicable:
   a. Instructions on meaning of warnings, trouble indications, and error messages.
   b. Instructions on stopping.
   c. Shutdown instructions for each type of emergency.
   d. Operating instructions for conditions outside of normal operating limits.
   e. Sequences for electric or electronic systems.
   f. Special operating instructions and procedures.
   g. Include name and contact information for each equipment manufacturers installed products.
4. Operations: Include the following, as applicable:
   a. Startup procedures.
   b. Equipment or system break-in procedures.
   c. Routine and normal operating instructions.
   d. Regulation and control procedures.
   e. Control sequences.
   f. Safety procedures.
   g. Instructions on stopping.
   h. Normal shutdown instructions.
   i. Operating procedures for emergencies.
   j. Operating procedures for system, subsystem, or equipment failure.
   k. Seasonal and weekend operating instructions.
   l. Required sequences for electric or electronic systems.
   m. Special operating instructions and procedures.
5. Adjustments: Include the following:
   a. Alignments.
   b. Checking adjustments.
   c. Noise and vibration adjustments.
   d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
   a. Diagnostic instructions.
   b. Test and inspection procedures.
7. Maintenance: Include the following:
   a. Inspection procedures.
   b. Types of cleaning agents to be used and methods of cleaning.
   c. List of cleaning agents and methods of cleaning detrimental to product.
   d. Procedures for routine cleaning

e. Procedures for preventive maintenance.
f. Procedures for routine maintenance.
g. Instruction on use of special tools.

PART 3 EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module.

3.2 INSTRUCTION

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

B. Scheduling: Provide instruction at mutually agreed on times.

C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

SECTION 024119 - SELECTIVE STRUCTURAL DEMOLITION AND SUPPORT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMARRY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Salvage of existing items to be reused or recycled.
3. Temporary shoring, bracing and underpinning.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PRE- DEMOLITION MEETING

A. Pre-demolition Conference:

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demotion personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective structure demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 SUBMITTALS

A. Pre-demolition Photographs or Video: Submit to Architect/Engineer before Work begins.

B. Shop Drawings: Show types of shoring, bracing, sheeting and underpinning used to support existing and new building structure or utilities. Shop drawings shall be signed and sealed by a qualified professional engineer licensed to practice in the State of New York.

C. Submit detailed description of construction methods and sequence of work operations.

D. Submit design calculations and drawings for shoring, bracing, sheeting and underpinning used in the preparation of the shop drawings that have been sealed and signed by a qualified professional Engineer licensed to practice in the State of New York. Contractor shall provide certified geotechnical reports. Calculations shall be complete and formatted such that others may check the calculations without additional references or clarifications.

E. Calculations shall reflect the proposed procedure and methodology, as well as equipment proposed and available to the Contractor.

1.7 QUALITY ASSURANCE

A. Shop Drawings and Calculations for shoring, bracing, and underpinning of the building structure shall be sealed and signed by a Professional Engineer licensed to practice in the State of New York to be provided by the Contractor.

B. Design loads shall be calculated and shall be determined by existing structure dead loads, construction loads, and stated live loads. The professional engineer shall determine all existing material loads.

C. For all geotechnical services required to provide temporary shoring and bracing for all subgrade excavations and temporary foundation systems for temporary shoring and bracing systems, the Contractor shall provide a certified geotechnical report for the services that shall be provided. Those services shall be provided by a geotechnical engineer licensed to practice in the State of New York.

D. Work shall be designed and executed in conformance with the current requirements of the Occupational Safety and Health Administration (OSHA) standards and requirements.

E. Promptly correct detected bulges, breakage or other evidence of movement to ensure that excavation support and protection system remains stable.

F. Promptly repair damages to adjacent facilities, caused by installation or faculty performance of excavation support and protection system, as required to restore the existing facilities to their pre-construction condition.

1.8 FIELD CONDITIONS

A. Notify Architect of discrepancies between existing conditions and contract drawings before proceeding with the work.

B. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.9 WARRANTY

A. Obtain existing warranties from Owner. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. A copy of

the existing warranty is appended to the end of this Section. Existing warranties include the following:

B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer and geotechnical engineer, as defined in section 013573 “Quality Requirements,” to design Temporary Shoring and Bracing.

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

D. Products, materials, and methods of fabrication shall conform to the applicable specification section of these Contract Documents including but not limited to: Concrete Reinforcing, Cast-In-Place Concrete, Structural Steel, and Masonry.

E. Provide suitable shoring and bracing materials as required to support loads imposed. Materials need not be new, but must conform to specifications and performance standards such that they are equivalent to new materials.

F. Contractor shall adhere strictly to methods and procedures, using only materials and equipment as proposed in submittals.

G. Request from the owner a copy of all record documents of the existing construction.

H. Provide, design, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting earth and hydrostatic pressures and superimposed and construction loads, as determined by a qualified Professional Engineer obtained by the Contractor and as required for the completion of the construction required by the design documents. All temporary foundation systems settlement shall be limited such that no damage will be incurred by the existing facility. The allowable foundation settlement shall be determined by the delegated design engineer.

1. Prevent surface water from entering excavations by grading, dikes, or other means.
2. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.
3. Continuously monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes and to ensure that damage to permanent structures is prevented.
4. Provide all dewatering of subgrade excavations and remedial efforts required to complete the construction as required by construction documents.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review record documents of existing construction provided by Owner and field verify the "As – Built" conditions are either compliant or non-compliant with the record documents. Owner does not guarantee that existing conditions are same as those indicated in record documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report and sketches to Architect as required to properly represent the unanticipated elements.

E. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
2. Dead loads of existing construction materials shall be determined by this professional engineer.

F. Survey of Existing Conditions: Record existing conditions by use of measured drawings & preconstruction photographs.

G. Prior to starting demolition the contractor shall document the condition of the area of the facility to be affected to be affected by the construction via photographs and a written report

3.2 PREPARATION

A. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes

to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

C. Bracing: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.

1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.
2. Install internal bracing if required to prevent spreading or distortion of braced frames.
3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand all vertical and lateral wind, seismic, earth, and hydrostatic pressures

3.3 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated repair and replacement of excessive demolition shall solely be the responsibility of the contractor. The determination of the extent of demolition required shall be the responsibility of the contractor. That determination shall be based upon the requirements for the construction of the project's design documents, and shall not be limited to the proposed requirements of the project's demolition documents. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover existing openings that are to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations. Fire watch personnel shall be provided as per governing safety standards.
4. Maintain adequate ventilation when using cutting torches.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

3.4 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement as determined by the design document, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished to a depth of at least ¾ inch, then break up and remove.

D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

E. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Section 075323"Ethylene-Propylene-Diene-Monomer (EPDM) Roofing" for new roofing requirements.

1. Remove existing roof membrane, flashings, copings, and roof accessories.
2. Remove existing roofing system down to substrate.

3.5 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 02 82 00 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The Asbestos Abatement Contractor herein referred to as the Contractor, will be responsible for performing all work in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent shall apply. Unless otherwise expressly indicated, the requirements of this specification are solely the Contractor's responsibility.

B. This asbestos abatement Project will consist of the removal and disposal of the following asbestos-containing materials (ACMs) as indicated on the contract drawing titled; Hazardous Material Abatement Plans HM-100, HM-101, HM-102, HM-103, HM-104, HM-105, HM-106, HM-107, HM-108, HM-109, and HM-110

1. 40 square feet (SF) of brown fire brick/insulation
2. 5 SF of gray door caulk
3. 1,640 SF of light gray cement thin set and gray grout
4. 75 SF of black electrical floor insulation
5. 1,200 SF of white exterior furnace insulation
6. 40 SF of white mudded joint packing, elbows and fittings
7. 97 SF of black roof flashing, doors and equipment
8. 4 SF of red rope gasket
9. 1,900 LF of thermal systems insulation associated with piping
10. 637 SF of dark gray window caulk
11. 637 SF of white window glaze
12. 755 SF of brown /red canvas cloth associated with lintels

C. Asbestos abatement locations and quantities are based on the following:
1. *Limited Pre-Renovation HazMat Inspection Report – Northland Avenue* prepared by Ravi Engineering & Land Surveying, P.C. (RE&LS) dated February 2024.
2. *Phase II Environmental Site Assessment 631, 683, 741 and 777 Northland Avenue* prepared by Fisher Associates dated September 2015.
3. *Phase II Environmental Site Assessment 631 Northland Avenue* prepared by RE&LS dated December 2024.

D. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the Work.

E. The Contractor shall coordinate all Work with the Work of other trades.

1.2 SPECIAL JOB CONDITIONS

A. The Contractor shall include in their bid asbestos abatement activities including, but not limited to, mobilization and demobilization, Work area preparation, gross removal activities, cleaning activities, temporary weather protection over building openings and waste removal.

B. The Contractor shall be responsible for obtaining any site-specific variances from the New York State Department of Labor required to perform the work.

1.3 PERMITS AND COMPLIANCE

A. The Contractor shall assume full responsibility and liability for compliance with applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.

B. Perform asbestos related Work in accordance with NYSDOL 12 NYCRR Part 56 (Industrial Code Rule 56), NESHAPS 40 CFR 61, AHERA 40 CFR Part 763 and OSHA 29 CFR 1926.1101, as specified herein.

C. The Contractor must maintain current licenses/certifications pursuant to New York State Department of Labor and Department of Environmental Conservation for all Work related to this Project, including the removal, handling, transport, and disposal of asbestos-containing materials.

D. The Contractor must have and submit proof upon request that any persons employed by the Contractor to engage in or supervise Work on any asbestos Project have a valid NYS asbestos handling/supervisor certificate pursuant to 12 NYCRR Part 56-3.

E. The Contractor shall comply fully with any variances secured from regulatory agencies. Should the Contractor choose to apply for any variance, approval of the Owner's Representative is first required.

F. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable to the Project. The Contractor shall pay all royalties and/or license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and save the Owner, Architect, Engineer, Owner's Representative, and Construction Manager harmless from loss, including attorney's fees, on account thereof.

G. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to and may terminate the Contract provided, however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

1.4 SUBMITTALS

A. Pre-Abatement Submittals: No Work shall begin until these submittals are returned with the Owner Representative's No Exceptions Taken (NET) action stamp. The Contractor shall submit an electronic copy of the documents listed below:

1. Permits, Licenses, Notifications, and Certifications:
    a. New York State Department of Labor (NYSDOL) Asbestos Contractor License.
    b. NYSDOL Project Notification.

c. United States Environmental Protection Agency (USEPA) Project Notification with certified mail read-receipt.
d. NYSDOL Asbestos Handler or Supervisor Certificate for each employee who works on the project.
e. Copy of New York State Department of Health (NYSDOH)-2832 form or equivalent proof of training for each handler/supervisor who works on the project.
f. Physician's written opinion that the employee is fit for duty.
g. Copies of all variances, amendments and re-openings being used for the project, if applicable.
h. Any other Notifications: As required by Federal, State, and local regulatory agencies.
i. New York State Department of Environmental Conservation (NYSDEC) Part 364 Waste Haulers Permit.
j. NYSDEC Part 360 Solid Waste Disposal Permit (or out of state equivalent).
k. NYSDOH Approved Laboratory Certification for required Occupational Safety and Health Administration (OSHA) air sampling.

2. Equipment: The Contractor shall submit the Manufacturer's information on all of the following equipment at a minimum. Additional equipment that will be used but not listed shall also be included in the submittal:
   a. HEPA Vacuums
   b. Respirators (including filter cartridges)
   c. Protective Clothing
   d. Duct Tape
   e. Disposal Bags

3. Safety Data Sheets (SDS): The Contractor shall submit copies of SDS (note: MSDS sheets will not be accepted) for each chemical or material used for projects including but not limited to:
   a. Encapsulants
   b. Remover/Solvents
   c. Cleaner/Disinfectants
   d. Surfactants
   e. Spray Adhesive

4. Progress Schedule.
   a. Show the complete sequence of abatement activities and the sequencing of Work within each Work Area.
   b. Show the dates for the beginning and completion of each major element of Work including substantial completion for the Project.

5. The Contractor shall submit a written Health and Safety Plan and designate, in writing, whom will be deemed the Competent Person as defined by OSHA.

B. On-Site Information: Refer to 12 NYCRR Part 56, Subpart 7.3, Asbestos Abatement Contractor Daily Project Logs and Subpart 3.4(a)(2) Project Record.

C. Post Abatement Submittals: The Contractor shall submit electronic copies to Wendel and Ravi Engineering & Land Surveying, P.C. for review and approval.

1. The name, address, NYS Department of Motor Vehicle Photo Identification Card number, last four digits of social security number and asbestos certificate number of the person who supervised the asbestos project.
2. The location and description of the asbestos project.
3. The amount of asbestos or asbestos material (including asbestos contaminated elements) that was abated.
4. The commencement and completion dates of the Project.
5. The name, address and current NYS Environmental Laboratory Approval Program (ELAP) registration number of the laboratory that was used for contractor daily air sample analysis on the Project.
6. The name, asbestos handling license number, and address of the Project monitoring asbestos contractor that was used on the Project.
7. The name and address of the deposit or waste disposal site or sites where the asbestos waste material was deposited or disposed.
8. The name and address of any sites that were used for the interim storage of asbestos or asbestos waste materials prior to final deposit or disposal.
9. The name and address of any transporter(s) that were used to transport asbestos or asbestos material.
10. The name, addresses, NYS Department of Motor Vehicle Photo Identification Card number, last four digits of social security number and asbestos license or certificate number of all persons who were engaged on that portion of the asbestos Project for which the asbestos Contractor has responsibility.
11. Copy of the asbestos abatement supervisor's daily project log as specified in 56-7.3.
12. Copy of all waste disposal manifests, and disposal logs.

1.5 APPLICABLE STANDARDS AND REGULATIONS

A. The Contractor shall comply with the codes and standards referenced in section 1.3B of this specification, except where more stringent requirements are shown or specified.

B. Federal Regulations.
1. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
2. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
3. 29 CFR 1910.145, "Specification For Accident Prevention Signs and Tags" (OSHA)
4. 29 CFR 1926, "Safety And Health Regulations For Construction" (OSHA)
5. 29 CFR 1926.1101, "Asbestos " (OSHA)
6. 29 CFR 1926.500 "Guardrails" (OSHA)
7. 40 CFR 61, Subpart A, "General Provisions" (EPA)
8. 49 CFR 171-172, Transportation Standards (DOT)

C. New York State Regulations.
1. 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (DOL)
2. 6 NYCRR, Parts 360, 364, Disposal and Transportation (DEC)
3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (DOH)

D. Local Regulations: *none specified.*

E. Standards and Guidance Documents.
1. American National Standard Institute (ANSI) Z88.2-80, Practices for Respiratory Protection.

2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems.
3. EPA 560/585-024, Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book).
4. EPA 530-SW-85-007, Asbestos Waste Management Guidance.

1.6 NOTICES

A. The Contractor shall provide NYSDOL Project Notification.
1. At least ten (10) calendar days prior to beginning abatement activities send written notification to:

New York State Department of Labor
Division of Safety and Health, Asbestos Control Program
State Office Campus
Bldg.12 – Room 161B
Albany, NY 12240

B. The Contractor shall provide USEPA notification, if applicable.
1. At least ten (10) working days prior to beginning abatement activities, send written notification to:

U.S. Environmental Protection Agency – Region 2
National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Coordinator
290 Broadway
New York, NY 10007-1866

C. The Contractor shall post and/or provide Building Occupant Notification at least ten (10) days prior to beginning abatement activities as required by 12 NYCRR Part 56-3.4. The posting shall include the following information:
1. The location(s) of the asbestos abatement Project.
2. The amounts and types of asbestos-containing materials being abated.
3. The commencement and completion dates of the Project.
4. The name and asbestos license number of the abatement Contractor.
5. The name and address of the Air Monitoring Firm and laboratory.

D. On multiemployer worksites, the Contractor shall notify other trades of the establishment of regulated Work areas and the measures taken to ensure employees are not exposed to asbestos. The General Contractor shall determine if the Contractor is in compliance with the multiemployer worksite standard.

1.7 PROJECT MONITORING

A. The Owner shall engage the services of a Project Monitoring Firm who shall serve as the Owner's Representative in regard to the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement period.

B. The Contractor is required to provide and ensure cooperation of its personnel with the Project Monitoring Firm for the Project Monitoring functions. The Contractor shall comply with all direction given by the Project Monitor during the course of the Project.

C. The Project Monitoring Firm shall staff the Project with a trained and Certified person to act on the Owner's behalf at the job site. This individual shall be designated as the Abatement Project Monitor.
   1. The Project Monitor shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The Project Monitor shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed.
      a. Such Stop Work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected. Stand-by time required to resolve the situation shall be at the Contractor's expense.

1.8 CONTRACTOR AIR SAMPLING

D. If a valid exposure assessment is not available for the duration of the Project, the Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits daily. If a negative determination is made, the minimum respiratory protection assigned shall be a non-disposable half-face air purifying respirator unless the employee requests a higher protection factor.

E. The Contractor's laboratory analysis of air samples shall be conducted by an NYSDOH ELAP approved laboratory, subject to approval of the Owner’s Representative.

F. Results of personal air sample analyses shall be available, verbally, within twenty-four (24) hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the Work site within five (5) days.

1.9 PROJECT SUPERVISOR

G. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
   1. The Project Supervisor shall hold New York State Certification as an Asbestos Supervisor.
   2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one-year experience as an asbestos supervisor.

H. If the Project Supervisor is not on-site at any time whatsoever, all Work shall be stopped. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Owner’s Representative. The Project Supervisor shall be removed from the Project if so requested by the Owner.

I. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the asbestos Project Monitor.

1.10 TEMPORARY UTILITIES

J. The Contractor shall provide sufficient temporary electric power to complete the abatement Project in a timely manner. The Contractor shall provide Ground Fault Circuit Interrupters (GFCIs) located at the source for all electric requirements within the asbestos Work Area.
   1. Where available, the Contractor can obtain temporary electric power from Owner's existing system. Otherwise provide power from other sources (i.e. generator).
   2. The Contractor shall provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
   3. The Contractor shall provide adequate power sources as required by the Project Monitor for the purposes of collecting air samples within the Work area.
   4. All power to the Work Area shall be brought in from outside the area through GFCIs at the source.

K. The Contractor shall provide temporary lighting with "weatherproof" fixtures for all Work Areas including decontamination chambers.
   1. The entire Work Area shall be kept illuminated at all times Work is being performed.
   2. The Contractor shall provide lighting as required by the Project Monitor for the purposes of performing required inspections.

L. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.

M. Utilize domestic water service, if available, from Owner's existing system. The Contractor shall provide hot water heaters with sufficient capacity to meet Project demands.

PART 2 - PRODUCTS

2.1 PROTECTIVE CLOTHING

A. The Contractor shall provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings as well as provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. The Contractor shall provide sufficient quantities of protective clothing to ensure a minimum of four (4) complete disposable outfits per day for each individual performing abatement Work including the Project Monitor.

C. Eye protection and hard hats shall be provided by the Contractor and made available for all personnel entering any Work Area.

D. The Contractor shall provide Authorized Visitors with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

2.2 SIGNS AND LABELS

A. Generator identification information shall be affixed to each waste container indicating the following printed in indelible ink:

Generator Name: Buffalo Urban Development Corporation
Facility Name: 631 Northland Avenue
Facility Address: *631 Northland Avenue, Buffalo, New York 14211*

2.3 PROJECT LOG BOOK

A. The Project Supervisor shall document all Work performed daily and note all inspections required by 12 NYCRR Part 56, i.e. testing and inspection of barriers and enclosures.

2.4 LADDERS

A. The Contractor shall provide ladders necessary to accomplish the Work of this Contract. The type, erection and use of all ladders shall comply with all applicable OSHA construction industry standards.

B. The Contractor shall provide ladders as required by the Owner's Representative for the purposes of performing required inspections.

C. Ladders shall be inspected daily by the Competent Person. The results of the ladder inspection shall be documented in the Supervisors Project log book.

2.5 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide 6-mil polyethylene disposal bags printed with asbestos danger labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.

B. Provide 30 or 55-gallon capacity fiber or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos danger labels on lids and at one-third points around drum circumference to assure ready identification.

C. Containers and bags must be labeled with the names of the waste generator and the location at which the waste was generated in accordance with 40 CFR Part 61 Subpart M, NESHAPS.

D. Labeled asbestos-containing material waste containers or bags shall not be used for non-asbestos-containing material waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not shall be handled and disposed of as asbestos-containing material waste.

2.6 HEPA VACUUM EQUIPMENT

A. All vacuuming performed under this contract shall be performed with High Efficiency Particulate Absolute (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

C. Each HEPA equipped vacuum shall be equipped with a HEPA filter that has never been used or each HEPA equipped vacuum must be inspected and tested prior to being brought on site for the proper operation and performance of the HEPA filter. Inspection and testing shall be in accordance with the manufacturer's recommendations. Proof of inspection and testing for each HEPA equipped vacuum must be made available to the Owner or Owner's Representative upon request. Each HEPA equipped vacuum must be tagged with the date of the last HEPA filter change.

2.7 POWER TOOLS

A. Power tools used to drill, cut into, or otherwise disturb known or suspect asbestos material that have not been determined to be non-asbestos containing by laboratory analysis shall be equipped with HEPA filtered local exhaust ventilation.

B. Each HEPA power tool shall be equipped with a HEPA filter that has never been used or each HEPA equipped power tool must be inspected and tested prior to being brought on-site for the proper operation and performance of the HEPA filter. Inspection and testing shall be in accordance with the manufacturer's recommendations. Proof of inspection and testing for each HEPA equipped power tool must be made available to the Owner or Owner's Representative upon request. Each HEPA equipped power tool must be tagged with the date of the last HEPA filter change.

2.8 HEPA EQUIPPED NEGATIVE AIR UNITS

A. Each HEPA equipped negative air unit shall be equipped with a HEPA filter that has never been used or each HEPA equipped negative air unit must be inspected and tested prior to being brought on site for the proper operation and performance of the HEPA filter. Inspection and testing shall be in accordance with the manufacturer's recommendations. Proof of inspection and testing for each HEPA negative air unit must be made available to the Owner or Owner's Representative upon request. Each HEPA equipped negative air unit must be tagged with the date of the last HEPA filter change. At a minimum the Primary HEPA filter must be replaced every 600 hours.

B. Each negative air unit must be capable of fitting through a standard door or access hatch where required.

2.9 POLYETHYLENE SHEETING

A. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, waste container) shall be at least 6-mil fire retardant sheeting.

B. Decontamination enclosure systems shall utilize at least 6-mil opaque fire retardant plastic sheeting. At least two (2) independent layers of 6-mil reinforced fire retardant plastic sheeting shall be used for the decontamination enclosure flooring.

2.10 BUILDING MATERIALS

A. Building materials installed by the contractor (either temporary or permanent) shall be asbestos free.

2.11 WETTING AGENTS

A. Wetting of asbestos-containing or asbestos-contaminated materials shall be performed before, during and after removals using water to which a surfactant has been added. Contractor shall follow manufacturers' recommendations for mixing surfactant and water.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

A. Comply with the rules and regulations referenced in Part 1 of this Section.

B. Prior to Work Area preparation the Work Area must be vacated by non-Certified persons and building occupants.

C. All demolition activities necessary to access asbestos-containing materials or suspect asbestos-containing materials for removal must be conducted within restricted areas by certified asbestos workers.

D. Alterations to the abatement procedures outlined in this specification shall be allowed if approval is obtained from the Owner's Representative and/or a variance from ICR 56 is granted by the NYSDOL. The Contractor must follow the owner's representative's conditions as well as all variance conditions if alterations to abatement procedures are approved.

E. Should the area beyond the Work area(s) become contaminated with asbestos-containing materials, immediately stop Work and institute emergency procedures. Contaminated non-Work areas shall be isolated and decontaminated in accordance with procedures established for asbestos removal. All costs incurred in decontaminating such non-Work areas and the contents thereof shall be borne by the Contractor, at no additional cost to the Owner. Abatement work shall not continue in the Work area until a satisfactory visual inspection performed by the Project Supervisor and Project Monitor has been performed to ensure non-Work areas are properly decontaminated. Results of this inspection shall be noted in the Project Supervisors log book.

F. Negative pressure tent enclosures for Minor-size work areas shall be sized by the Contractor to fit the necessary air sampling equipment. Minimum dimensions for tent enclosures shall be six feet by three feet by three feet.

3.2 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

A. The Contractor shall remove asbestos-containing materials using wet methods in accordance with the Contract Documents and the approved Asbestos Work Plan.

3.3 ROOF AND WINDOW REMOVALS

A. The Contractor is required to provide temporary weather protection at the end of each Work shift to prevent water infiltration into the building and shall maintain until the permanent building has been restored. Weather protection shall not be installed until a successful Project Monitor Visual Inspection is completed.

B. If water leaks through containment areas or results from improper weather/security protection, the contractor shall be responsible for all water damage.

3.4 RESTORATION OF UTILITIES, FIRE STOPPING, AND FINISHES

A. After final visual inspection remove locks and restore electrical and HVAC systems. All temporary power shall be disconnected, power lockouts removed and power restored. All temporary plumbing shall be removed.

B. Finishes damaged by asbestos abatement activities including, but not limited to damage due to duct tape and spray adhesives, shall be restored prior to final payment.
   1. Finishes unable to be restored shall be replaced under this Contract.
   2. All foam and expandable foam products and materials used to seal Work Area openings shall be completely removed upon completion of abatement activities.

C. All penetrations (including, but not limited to, pipes, ducts, etc.) through fire-rated construction shall be fire stopped using materials and systems tested in accordance with ASTM E814 on projects where re-insulation is part of the required Work.

3.5 DISPOSAL OF ASBESTOS WASTE

A. All asbestos waste shall be stored, transported and disposed of in accordance with the following regulations as a minimum.
   1. NYS DEC 6 NYCRR Part 360 and 364.
   2. US EPA Asbestos Waste Management Guidance EPA/530-SW85.

3.6 TRANSPORTATION AND DISPOSAL SITE

A. The Contractor's Hauler and Disposal Site shall be approved by the Owner.

B. The Hauler, with the Contractor and the Owner’s Representative, shall inspect all material in the transport container prior to taking possession and signing the Asbestos Waste Manifests.

C. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site with no unauthorized stops.

D. Final Project payment shall not be approved until the waste shipment record is returned to the building owner.

3.7 WASTE STORAGE CONTAINERS

A. All waste containers utilized for exterior removals shall be open top and lockable (i.e. open dumpster with canvas cover, etc.). Open top containers not removed from site daily shall be covered at the end of each Work shift.

B. All waste containers utilized for interior removals shall be fully enclosed and lockable (i.e. enclosed dumpster, trailer, etc.). Open containers will be not be permitted (i.e. open dumpster with canvas cover, etc.) for interior removal waste unless specifically permitted by a site specific variance.

C. The Owner's Representative shall verify that the waste storage container tags (license plates) match that listed on the New York State Department of Environmental Conservation Part 364 permit. Any container not listed on the permit shall be removed from the site immediately

D. While on-site, all four sides of the container shall be labeled with EPA Danger signage:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

E. The New York State Department of Environmental Conservation Asbestos Hauler's Permit number shall be stenciled on both sides and back of the container.

F. The container is not permitted to be loaded unless it has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.

G. The waste container(s) shall be located on site in such a location that the waste can be deposited by hand or sealed construction chute directly from the roof to the waste container(s). ACM shall not be dropped from a height greater than 8 feet to the waste container(s).

H. The waste shall be removed from site no later than ten (10) calendar days from Project completion. Delay in removing waste from site may prevent the Contractor from obtaining the retainage withheld.

END OF SECTION 028200

SECTION 02 83 00 - LEAD ABATEMENT

PART 1 - GENERAL

1.1 BACKGROUND

A. This Section specifies who is responsible for, and the measures required for occupant protection, worksite preparation, work methods, cleaning, and disposal of lead-based paint at 631 Northland Avenue, Buffalo, New York 14211.

B. The work specified herein is a lead abatement project. Work practices shall follow U.S. Department of Labor Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62.

C. Any work on surfaces coated with lead paint entails a risk of exposing workers and occupants to lead and of releasing lead into the environment. Heating materials coated with lead paint produces a lead fume that is highly toxic to workers and harmful to the environment. Removal of lead paint from structures, even in small quantities or in isolated areas, produces paint dust and chips that must be contained and collected to protect workers, occupants and the environment.

1.2 PROJECT CONDITIONS

A. The following will be removed from several spaces as part of the planned renovations:

1. 23,500 SF (square feet) of leaded glass associated with the exterior window system
2. 3,000 SF of lead based yellow paint associated with the catwalk and stair system
3. 1,948 SF of lead based blue paint associated with exterior doors

B. The following are lead-containing materials present within the project limits:

1. Red paint associated with concrete block on exterior wall
2. Brown/white paint associated with plaster ceilings in men and women’s toilet rooms
3. Green paint associated with toilet room partitions
4. Maroon paint associated with door to exterior
5. Red/orange paint associated with wall mounted electrical boxes
6. Light green/brown paint associated with structural steel
7. Metal associated with large furnace (interior)
8. Brown paint associated with lockers in locker room

C. No less than seven (7) days prior to construction, the Contractor shall submit all required submittals. No work shall begin until these submittals are returned with the Owner Representative's No Exceptions Taken (NET) action stamp.

D. Contractor shall provide certified copies of the following:

1. OSHA Compliance Program in accordance with 29 CFR 1926.62(e)(2).
2. Proof of current (within 12 months) physical exam for use of a respirator and provide copy of qualitative fit test for all personnel.
3. Proof of training records for employees who may be occupationally exposed to lead.
4. Proof of blood lead level monitoring for each employee who might be exposed to lead on the project.
5. Copies of written respiratory program and qualitative respirator fit test.
6. Lead exposure assessment (within 12 months) involving like materials and work practices.
7. Transporter Permits: DEC permit and permits required by counties through which the lead-contaminated waste and solid waste material is transported to a TSDF.
8. Landfill permit.

E. Contractor shall prepare a detailed work plan and submit two copies to the owner. One copy shall be sent to the designated consultant. These work plans shall be submitted and approved prior to commencing work by the Consultant. The work plan shall include the following information:

1. Work procedures;
2. Cleaning procedures;
3. Types of equipment;
4. Crew size;
5. Emergency procedures for fire and medical emergencies; and
6. Procedures for failure of containment barriers, if used.

F. Safety Data Sheets (SDS): The Contractor shall submit copies of SDS (note: MSDS sheets will not be accepted) for each chemical or material used for projects including but not limited to:

1. Encapsulants;
2. Remover/Solvents;
3. Cleaner/Disinfectants;
4. Surfactants; and
5. Spray Adhesive.

G. Close-out submittals. Following the completion of lead hazard control activities, the contractor shall submit the following close-out submittals:

1. Supervisor's daily project logs;
2. Personal air sampling records documenting employee exposure;
3. Toxicity Characteristic Leaching Procedure (TCLP) sample results of all waste containers leaving site for disposal.
4. Waste manifests from TSDFs and recycling facility representatives listing dates of delivery, quantity of material, confirmation of receipt in proper, undamaged containers and signatures by authorized representatives.

1.4 CONTRADICTIONS

A. If the requirements of this Specification contradict the referenced regulations, standards, or guidelines in Section 1.05 of this Specification, then the most stringent shall apply.

B. The Contractor is responsible for following this Specification, as well as, all applicable local, state, and federal laws and regulations regarding lead.

1.5 REFERENCES

A. Occupational Safety and Health Administration (OSHA): Lead, 29 CFR 1926.62.

B. U.S. Environmental Protection Agency (EPA):

1. National Primary and Secondary Ambient Air Quality Standards, 40 CFR 50.
2. Resource Conservation and Recovery Act (RCRA), Section 3004 Hazardous Waste Amendments.
3. Toxicity Characteristics Leaching Procedure, EPA Method 1311.
4. Lead; Renovation, Repair, and Painting Program; Final Rule, 40 CFR Part 745; effective April 22, 2010.

C. Code of Federal Regulations (CFR).

1. Department of Housing and Urban Development, 24 CFR Part 35.
2. Occupational Safety and Health Standards, 29 CFR Part 1910.1025.
3. Safety and Health Regulations for Construction, 29 CFR Part 1926.62.
4. Hazardous Waste Injection Restrictions, 40 CFR Part 14B.
5. Hazardous Waste Management System: General, 40 CFR Part 260.
6. Identification and Listing of Hazardous Waste, 40 CFR Part 261.
7. Standards Applicable to Generators of Hazardous Waste, 40 CFR Part 262.
8. Standards Applicable to Transporters of Hazardous Waste, 40 CFR Part 263.
9. Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, 40 CFR Part 264.
10. Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, 40 CFR Part 265.
11. Land Disposal Restrictions, 40 CFR Part 268.

D. U.S. Department of Transportation (USDOT): Hazardous Substances, 23 CFR 171 and 23CFR 172.

E. U.S. Department of Housing and Urban Development

1. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2012 Revision.

F. New York State Department of Environmental Conservation (DEC) 6 NYCRR:
1. Part 360 Solid Waste Management Facilities.
2. Part 364 Waste Transporter Permits.
3. Part 370 Hazardous Waste Management System-General.
4. Part 371 Identification and Listing of Hazardous Wastes.
5. Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities.
6. Part 373 Hazardous Waste Management Facilities.

7. Part 376 Land Disposal Restrictions.

G. Regulations of the Commissioner of Education (8 NYCRR 155), Effective October 7, 1999.

H. American Society for Testing and Materials (ASTM):

1. E1728-99, "Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques."
2. E1727-99, "Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques."
3. E1792-96a, "Standard Specification for Wipe Sampling Materials for Lead in Surface Dust."

1.6 DEFINITIONS

A. "Contractor" shall refer to all trades unless otherwise specified.

B. “Consultant” shall refer to Ravi Engineering & Land Surveying, P.C.

C. Disturbance: Any renovation or demolition activities to painted surfaces.

D. High-Efficiency Particulate Air (HEPA) Filters are filters that can remove particles of 0.3 microns or greater from air at 99.97 percent efficiency or greater.

E. Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.

F. Lead-Based Paint (LBP): Paints, components, or other surface coatings that contain lead equal to or in excess of 1.0 milligrams per square centimeter or 0.5 percent of lead by weight.

G. Lead-Containing Paint (LCP): Paints, components, or other surface coatings that contain lead greater than 0.0 percent by weight or the laboratory detection limit.

H. Lead Control Area: A containment to prevent the spread of lead dust, paint chips, or debris of lead containing paint removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.

I. "Owner" shall refer to the University of Rochester and its designated, authorized representatives.

J. Visible Emissions: Any emissions containing particulate construction dust from painted surfaces that are visually detectable without the aid of instruments. This does not include condensed, uncombined water vapor.

PART 2 - PRODUCTS

2.1 PAINT REMOVAL PRODUCTS

A. If a chemical paint remover is used, provide a product that will not produce noxious fumes and does not contain methylene chloride. Safety Data Sheets shall be submitted to the Owner for each removal product used and approved by the Consultant before use.

2.2 PROTECTIVE CLOTHING

A. The Contractor shall provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings as well as provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. Eye protection and hard hats shall be provided by the Contractor and made available for all personnel entering any Work Area.

2.3 RESPIRATORY PROTECTION

A. Respirators shall be provided to each employee to ensure they are not exposed to lead in air concentrations above the PEL of 50 micrograms/cubic meter. Respirators must be worn in accordance with tasks described in 29 CFR 1926.62, Lead Exposure in Construction. The rules set forth in 29 CFR 1910.134 and 29 CFR 1926.62 shall govern selection, training and use of respirator protection.

2.4 SIGNS AND LABELS

A. Lead Work areas shall be conspicuously marked at all approaches with signage stating the following:

DANGER
LEAD WORK AREA
MAY DAMAGE FERTILITY
OR UNBORN CHILD
CAUSES DAMAGE TO
THE CENTRAL NERVOUS SYSTEM
DO NOT EAT, DRINK, OR
SMOKE IN THIS AREA

B. Disposal bags or drums shall possess stick on labels containing the following information:

DANGER
CLOTHING AND EQUIPMENT
CONTAMINATED WITH LEAD.
MAY DAMAGE FERTILITY OR UNBORN CHILD.
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM.
DO NOT EAT, DRINK OR SMOKE WHEN HANDLING.
DO NOT REMOVE DUST BY BLOWING OR SHAKING.
DISPOSE OF LEAD CONTAMINATED WASH WATER
IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR
FEDERAL REGULATIONS.

2.5 EMPLOYEE PROTECTION

A. The lead abatement contractor will be responsible for personal air monitoring of workers, and results given to the Owners Representative for review within 24 hours of sampling.

B. The Contractor shall comply with all applicable Occupational Safety and Health Administration (OSHA) Requirements, 29 CFR 1926.62 if the employee is exposed to lead dust at or above the Action Limit or Permissible Exposure Limit.

2.6 BUILDING AND OCCUPANT PROTECTION

A. Lead Control Area Requirements.

1. Contractor shall establish a Lead Control Area where significant (greater than two square feet) renovation/demolition operations will be performed in the areas specified.
2. Contractor shall make provisions to prevent the passage of dust and contaminants into occupied parts of the building.
3. Contractor shall use lead danger tape and signs at all entrances and exits to the renovation/demolition area to prevent anyone other than the Contractor from entering the work area.
4. Provisions shall be made to minimize the generation of dust during demolition and removal operations. Wherever possible, remove existing building components without cutting, heating, abrading, or disturbing the painted surfaces.

B. Protection of Existing Work to Remain.

1. Contractor shall perform renovation/demolition work without damage or contamination of adjacent areas. Where existing work is damaged or contaminated by the Contractor, restore work to its original condition or better.

2.7 DISTURBANCE TO PAINTED SURFACES

A. Prohibited Activities.

1. Eating, drinking, and smoking.
2. Open flame burning or torching.
3. Machine sanding and grinding without a HEPA filtered shroud.
4. Abrasive blasting without a HEPA filtered shroud.
5. Dry sanding and scraping.
6. Paint stripping using hazardous chemicals not approved by the Consumer Product Safety Commission (CSPC).
7. Depositing or dropping waste materials into water, storm or sanitary sewers, floor or trench drains, or the ground.
8. Cleaning surfaces or clothing with compressed air.

B. Interior painted surfaces.

1. This work shall consist of furnishing and installing a restricted area around the immediate work area to isolate the area and limit access to non-authorized personnel during work. Plastic sheeting shall be placed over all entrances.
2. Provide hygiene facilities adjacent to the work area for worker and tool decontamination. The configuration of hygiene facilities shall be as follows:

a. Exposure Assessment above the PEL.
   i. Employee change area.
   ii. Showers.
   iii. Eating Facilities.
   iv. Handwashing facilities.

b. Exposure Assessment below the PEL.
   i. Place an impermeable drop cloth on the ground for a worker decontamination area. The area shall be equipped with a water spray bottle, towels, a wash bin to collect waste water, and a waste bag.
   ii. HEPA vacuum work clothing, tools, and waste bags before removing them from the job site.

3. If wet wiping will be used as a cleaning method, then all electrical sources (including receptacles, lights, conduits, switches, etc.) to be wet cleaned shall be sealed with two layers of 6-mil fire retardant plastic sheeting prior to disturbing lead painted surfaces.
4. Non-movable items inside the work area shall be covered with one layer of 6-mil fire retardant plastic sheeting prior to disturbing lead paint.
5. Disturbance methods, such as HEPA vacuum power tools, heat guns at temperatures below 1100º F, HEPA vacuum blasting, HEPA vacuum needle gun, wet scraping, and chemical paint removers are allowed, providing they are used in accordance with HUD Guidelines and in a manner that will control lead hazards and limit worker's exposure to lead hazards. Disturbance methods must be identified and explained in the Contractors approved detailed work plan.
6. Debris and dust, which may contain lead, shall be cleaned using wet methods, HEPA equipped vacuums, or other HUD-approved methods and shall be in accordance with HUD guidelines. All gross debris shall be placed in a dumpster. All residual waste material that results from the demolition/ renovation operations shall be cleaned up and collected from the floor, walls, and other surfaces inside of the work areas by vacuuming. All vacuums shall be equipped with high efficiency particulate (HEPA) filters. Sweeping of the waste materials will not be allowed. Clean up operations shall be performed daily. Lead waste debris must be properly containerized at all times.
7. Ventilation inside the restricted area is not specifically required and may be by natural means. However, it may be necessary to provide mechanical ventilation to meet OSHA requirements for worker exposure to lead and other provisions. If mechanical ventilation is provided to address these requirements, HEPA filtration of exit air is required.

C. Exterior painted surfaces.
1. This work shall consist of placing an impermeable drop cloth below the immediate work area to contain and collect debris generated during demolition/ renovation operations and sealing off any openings to the building such as operable windows and ventilation units.
2. Disturbance methods, such as HEPA vacuum power tools, heat guns at temperatures below 1100º F, HEPA vacuum blasting, HEPA vacuum needle gun, wet scraping, and chemical paint removers are allowed, providing they are used in accordance with HUD Guidelines and in a manner that will control lead hazards and limit worker's exposure to lead hazards. Disturbance methods must be identified and explained in the Contractors' approved detailed work plan.
3. Debris and dust, which may contain lead, shall be cleaned using wet methods, HEPA equipped vacuums, or other HUD-approved methods and shall be in accordance with HUD guidelines. All gross debris shall be placed in a dumpster. All residual waste material that results from paint disturbance operations shall be cleaned up and collected from the drop cloth by vacuuming. All vacuums shall be equipped with high efficiency particulate (HEPA) filters. Sweeping of the waste materials will not be allowed. Mechanical means to remove the gross waste material will only be allowed if the containment remains intact, and debris and dust is not spread beyond the containment. Clean up operations shall be performed daily. Lead waste debris must be properly containerized at all times.

2.8 ENVIRONMENTAL GROUND PROTECTION

A. Depositing or dropping waste materials into water, storm or sanitary sewers, floor or trench drains, or the ground will not be permitted.

B. Ground protection will be required as follows:
   1. Covers or other material, capable of catching and holding waste materials shall be provided on or over the ground under the structure in the work area.
   2. The length of the work location shall determine the length of the cover. The width of the cover shall be greater than each side of the area directly being worked on. The cover shall be positioned in such a manner as to contain and prevent the loss of waste material.

2.9 AIR MONITORING

A. There are no current regulations that require air monitoring both inside and outside of containment to collect airborne particulate matter. Should new regulations require air monitoring prior to, during or after renovation or construction activities, the air monitoring shall be the Owners' responsibility.

B. Personal air monitoring required by OSHA is the work of the Contractor and is covered in 29 CFR 1926.62 - Lead Standard.

2.10 Work Area Clearance

A. Interior
   1. Following cleanup operations, a visual inspection shall be performed by the Supervisor to determine if deteriorated painted surfaces and/or visible amounts of dust and debris or residue are still present. If deteriorated painted surfaces and/or visible amounts of dust and debris or residue are present, these conditions must be eliminated prior to reconstruction.
   2. Clearance dust wipe sampling is not required for this project.

B. Exterior
   1. Following demolition/renovation activities, a Supervisor visual inspection shall be performed to determine if deteriorated painted surfaces and/or visible amounts of dust and debris or residue are still present. The results of the visual inspection shall be documented in the Contractor's log book. If deteriorated painted surfaces and/or visible amounts of dust and debris or residue are present, these conditions must be eliminated prior the area being turned over to other trades and/or building occupants. Following a successful visual inspection and any post cleanup, the restricted area may be dismantled.

2.11 PRE-DISPOSAL TESTING

A. Prior to disposal, the Contractor shall test the lead debris for toxicity in accordance with EPA Method 1311, Toxicity Characteristic Leaching Procedure (TCLP).
   1. Test results indicating a value greater than 5.0 mg/L lead classifies the removed paint as Hazardous Waste.
   2. TCLP Results shall be forwarded to the Owner's representative prior to disposal of any waste materials.

2.12 DISPOSAL OF LEAD PAINT AND RELATED DEBRIS

A. The Contractor shall transport and dispose of lead paint debris classified as hazardous waste in accordance with the standards referenced in Part 1 of this Section.

B. The Contractor shall transport and dispose of lead paint debris classified as non-hazardous waste in accordance with the standards referenced in Part 1 of this Section.

END OF SECTION 028300

SECTION 03 01 30 - MAINTENANCE OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Removal of deteriorated concrete and subsequent replacement of structural concrete members
   2. Epoxy crack injection of structural concrete members
   3. Corrosion-inhibiting treatment.

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site

1.4 SUBMITTALS

A. Product Data: For each type of product: Include construction details, material descriptions, chemical composition, physical properties, test data, and mixing, preparation, and application instructions.

B. Qualification Data: For installers.

C. Material Certificates: For each type of Portland cement aggregate supplied for mixing or adding to products at Project site.

D. Product Test Reports: For each manufactured bonding agent, cementitious patching material, joint-filler, and crack injection adhesive; for tests performed by manufacturer and witnessed by a qualified testing agency.

E. Reports of field determined verification and measurements of the condition of the existing structure.

F. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Each manufactured bonding-agent, cementitious patching material, joint-filler, and crack-injection-adhesive, manufacturer shall employ factory-trained technical representatives as required for consultation and Project-site inspection and assistance at no additional cost in order to assure the proper written manufacturer’s procedure are being adhered to.

B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by the manufacturer to apply packaged cementitious patching material materials epoxy crack injection materials corrosion-inhibiting treatments

C. Maintenance Program: Prepare a written plan for maintenance of cast-in-place concrete, including each phase or process, protection of surrounding materials during operations, and control of debris and runoff during the Work. Describe in detail the materials, methods, equipment, and sequence of operations to be used for each phase of the Work

D. Mockups: Build mockups to demonstrate and set quality standards for materials and execution.

E. Epoxy Crack Injection: Perform epoxy crack injection of each type of crack in two separate and differing areas.

F. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

G. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.

B. Store cementitious materials off the ground, under cover, and in a dry location.

C. Store aggregates covered and in a dry location; maintain grading and other required characteristics and prevent contamination.

1.7 FIELD CONDITIONS

A. Environmental Limitations for Epoxies: Do not apply when air and substrate temperatures are outside limits permitted by manufacturer. During hot weather, cool epoxy components before mixing, store mixed products in shade, and cool unused mixed products to retard setting. Do not apply to wet substrates unless approved by manufacturer.

B. Use only Class A or B epoxies when substrate temperatures are below or are expected to go below 60 deg F (16 deg C) within 8 hours.

C. Use only Class C epoxies when substrate temperatures are above and are expected to stay above 60 deg F (16 deg C) for 8 hours.

D. Cold-Weather Requirements for Cementitious Materials: Do not apply unless concrete-surface and air temperatures are above 40 deg F (5 deg C) and will remain so for at least 48 hours after completion of Work.

E. Hot-Weather Requirements for Cementitious Materials: Protect repair work when temperature and humidity conditions produce excessive evaporation of water from patching materials. Provide artificial shade and wind breaks, and use cooled materials as required. Do not apply to substrates with temperatures of 90 deg F (32 deg C) and above.

F. All multiple part epoxy material shall be mixed by power driven mixing equipment.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Source Limitations: Obtain each color, grade, finish, type, and variety of product from single source with resources to provide products of consistent quality in appearance and physical properties.

B. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

2.2 BONDING AGENTS

A. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Manufactured product that consists of water-insensitive epoxy adhesive, portland cement, and water-based solution of corrosion-inhibiting chemicals that forms a protective film on steel reinforcement.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   2. Euclid Chemical Company (The), an RPM company; Duralprep A.C.
   3. Kaufman Products, Inc.; Surepoxy HM EPL.
   4. Sika Corporation, Construction Product Division; Armatec 110 EpoCem.

B. Epoxy Bonding Agent: ASTM C 881/C 881M, Type V and free of VOCs.

C. Latex Bonding Agent: ASTM C 1059/C 1059M, Type II.
   1. Products: Subject to compliance with requirements available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Latex Bonding Agent, Type I (Redispersible)
      b. Dayton Superior Corporation; Superior Concrete Bonder (J-41) Conspec Weldtite Edoco PVA Bonding Agent.
      c. Euclid Chemical Company (The), an RPM company; Euco Weld Tammsweld.
      d. Kaufman Products, Inc.; Sureweld.
      e. W. R. Meadows, Inc.; Intralok.

2.3 CEMENTITIOUS PATCHING MATERIAL

A. Cementitious patching material, General:
   1. Only use cementitious patching materials that are recommended by manufacturer for each applicable horizontal, vertical, or overhead use orientation.
   2. Coarse Aggregate for cementitious patching materials: ASTM C 33, washed aggregate, Size No. 8, Class 5S. Add to cementitious patching materials mix only as permitted by cementitious patching materials manufacturer.

B. Polymer-Modified, Cementitious Patching Material: Packaged, dry mix for repair of concrete that contains a latex additive as either a dry powder or a separate liquid that is added during mixing
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
      a. Dayton Superior Corporation.
      b. Euclid Chemical Company (The); an RPM company.
      c. Kaufman Products, Inc.
      d. Sika Corporation; Construction Product Division.
      e. W. R. Meadows, Inc.
   3. Compressive Strength: Not less than 4000 psi (27.6 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.4 EPOXY CRACK-INJECTION MATERIALS

A. Epoxy Crack-Injection Adhesive: ASTM C 881/C 881M, Type IV, free of VOCs.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
      a. Dayton Superior Corporation
      b. Euclid Chemical Company (The); an RPM company.
      c. Kaufman Products, Inc.
      d. Sika Corporation; Construction Product Division.
      e. W. R. Meadows, Inc.

B. Capping Adhesive: Product manufactured for use with crack injection adhesive by same manufacturer.

C. Color: Provide epoxy crack-injection adhesive and capping adhesive as indicated by manufacturer's designations.

2.5 MIXES

A. General: Mix products, in clean containers, according to manufacturer's written instructions.
   1. Do not add water, thinners, or additives unless recommended by manufacturer.
   2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovel or trowel as unit of measure.
   3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.

B. Mortar Scrub Coat: Mix dry ingredients with enough water to provide consistency of thick cream.

C. Dry-Pack Mortar: Mix cementitious patching material dry ingredients with just enough liquid to form damp cohesive mixture that can be squeezed by hand into a ball but is not plastic.

D. Concrete: Comply with Section 033000 "Cast-in-Place Concrete"

E. Grout for Use with Preplaced Aggregate: Proportion according to ASTM C 938. Add grout fluidifier to mixing water followed by Portland cement, pozzolan, and fine aggregate.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Notify Architect seven days in advance of dates when areas of deteriorated or delaminated concrete and deteriorated reinforcing bars will be located.

B. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries. At columns and walls make boundaries level and plumb unless otherwise indicated.

C. Perform surveys as the Work progresses to detect hazards resulting from concrete-maintenance work.

3.2 PREPARATION

A. Ensure that supervisory personnel are on-site and on duty when concrete maintenance work begins and during its progress.

B. Preparation for Removal of Deteriorated Concrete: Examine construction to be repaired to determine best methods to safely and effectively perform concrete maintenance work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.
   1. Verify that affected utilities have been disconnected and capped.
   2. Inventory and record the condition of items to be removed for reinstallation or salvage.
   3. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain.

C. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from concrete maintenance work.
   1. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
   2. Use only proven protection methods appropriate to each area and surface being protected.
   3. Provide barricades, barriers, and temporary directional signage to exclude public from areas where concrete maintenance work is being performed.
   4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of concrete maintenance work.
   5. Contain dust and debris generated by concrete maintenance work and prevent it from reaching the public or adjacent surfaces.

6. Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment that ensure that such water will not create a hazard or adversely affect other building areas or materials.
7. Protect floors and other surfaces along haul routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.
9. Protect adjacent surfaces and equipment by covering them with heavy polyethylene film and waterproof masking tape. If practical, remove items, store, and reinstall after potentially damaging operations are complete.
10. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
11. Dispose of debris and runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

D. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is in working order.
1. Prevent solids such as aggregate or mortar residue from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from concrete maintenance work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

E. Concrete Removal:
1. Provide shoring, bracing, and supports as necessary. Strengthen or add new supports when required during progress of removal work. Do not overload structural elements with debris.
2. Saw-cut perimeter of areas indicated for removal to a depth of at least 3/4 inch (15 mm). Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.
3. Remove deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.
4. Remove additional concrete if necessary to provide a depth of removal of at least 3/4 inch (15 mm) over entire removal area.
5. Where half or more of the circumference of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least a 1-inch (19-mm) clearance around bar.
6. Test areas where concrete has been removed by tapping with hammer, and remove additional concrete until unsound and un-bonded concrete is completely removed.
7. Provide surfaces with a fractured profile of at least 1/8 inch (3 mm) that are approximately perpendicular or parallel to original concrete surfaces. At columns and walls, make top and bottom surfaces level unless otherwise directed.
8. Thoroughly clean removal areas of loose concrete, dust, and debris.

F. Reinforcing-Bar Preparation: Remove loose and flaking rust from reinforcing bars by abrasive blast cleaning or wire brushing until only tightly adhered light rust remains.
1. Where section loss of reinforcing bar is more than 25 percent, or 20 percent in two or more adjacent bars, cut bars and remove and replace as directed by Engineer. Remove additional concrete as necessary to provide at least 1-inch (19-mm) clearance at existing and replacement bars. Splice replacement bars to existing bars according to ACI 318 (ACI 318M) by lapping, welding, or using mechanical couplings.

3.3 APPLICATION

A. General: Comply with manufacturer's written instructions and recommendations for application of products, including surface preparation.

B. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Apply to reinforcing bars and concrete by stiff brush or hopper spray according to manufacturer's written instructions. Apply to reinforcing bars in two coats, allowing first coat to dry two to three hours before applying second coat. Allow to dry before placing cementitious patching material or concrete.

C. Epoxy Bonding Agent: Apply to reinforcing bars and concrete by brush, roller, or spray according to manufacturer's written instructions, leaving no pinholes or other uncoated areas. Place cementitious patching material or concrete while epoxy is still tacky. If epoxy dries, recoat before placing cementitious patching material or concrete.

D. Latex Bonding Agent, Type I: Apply to concrete by brush roller or spray. Allow to dry before placing cementitious patching material or concrete.

E. Latex Bonding Agent, Type II: Mix with Portland cement and scrub into concrete surface according to manufacturer's written instructions. Place cementitious patching material or concrete while bonding agent is still wet. If bonding agent dries, recoat before placing cementitious patching material or concrete.

F. Slurry Coat for cementitious patching material: Wet substrate thoroughly and then remove standing water. Scrub a slurry of neat patching mortar mixed with latex bonding agent into substrate, filling pores and voids.
   1. Placing cementitious patching material: Place as follows unless otherwise recommended in writing by manufacturer.
   2. Provide forms where necessary to confine patch to required shape.
   3. Wet substrate and forms thoroughly and then remove standing water.
   4. Pretreatment: Apply specified bonding agent and slurry coat.
   5. General Placement: Place cementitious patching material by troweling toward edges of patch to force intimate contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edges of patch. At fully exposed reinforcing bars, force cementitious patching material to fill space behind bars by compacting with trowel from both sides of bars.
   6. Vertical Patching: Place material in lifts of not more than 1 inch (25 mm) nor less than 1/8 inch (3 mm). Do not feather edge.
   7. Overhead Patching: Place material in lifts of not more than 1 inch (25 mm) nor less than 1/8 inch (3 mm). Do not feather edge.
   8. Consolidation: After each lift is placed, consolidate material and screed surface.
   9. Multiple Lifts: Where multiple lifts are used, score surface of lifts to provide a rough surface for placing subsequent lifts. Allow each lift to reach final set before placing subsequent lifts.
   10. Finishing: Allow surfaces of lifts that are to remain exposed to become firm and then finish to a surface matching adjacent concrete.
   11. Curing: Wet-cure cementitious patching materials, including polymer-modified cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

G. Epoxy Crack Injection.

1. Clean areas to receive capping adhesive of oil, dirt, and other substances that would interfere with bond, and clean cracks with oil-free compressed air or low-pressure water to remove loose particles.
2. Place injection ports as recommended by epoxy manufacturer, spacing no farther apart than thickness of member being injected. Seal injection ports in place with capping adhesive.
3. Seal cracks at exposed surfaces with a ribbon of capping adhesive at least 1/4 inch (6 mm) thick by 1 inch (25 mm) wider than crack.
4. Inject cracks wider than 0.003 inch (0.075 mm) to a depth of 8 inches (200 mm).
5. Inject epoxy adhesive, beginning at widest part of crack and working toward narrower parts. Inject adhesive into ports to refusal, capping adjacent ports when they extrude epoxy. Cap injected ports and inject through adjacent ports until crack is filled.
6. After epoxy adhesive has set, remove injection ports and grind surfaces smooth.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing agency shall perform the following tests and inspections.
1. Packaged, Cementitious Patching Material: Eight randomly selected sets of samples for each type of mortar required, tested according to ASTM C 928.
2. Testing Frequency: One sample for each 5 cu. yd. (19 cu. m) of grout or fraction thereof, but not less than one sample for each day's work
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Epoxy Crack Injection: Core-drilled samples to verify proper installation
5. Testing Frequency: 3 samples from mockup and 1 sample for each 50 feet (30 m) of crack injected.
6. Where samples are taken, refill holes with epoxy mortar.
7. Product will be considered defective if it does not pass tests and inspections.
8. Prepare test and inspection reports

END OF SECTION 030130

SECTION 03 10 00 - CONCRETE FORMWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Related Sections.
   1. Section 033000 Cast-In-Place Concrete.

1.3 SCOPE

A. This Section is subject to applicable requirements of the Contract Documents.

B. Work includes all Concrete Formwork required by the Contract, and, in general, includes the following items:
   1. Formwork for cast-in-place concrete.
   2. Built in sleeves, angles, anchors, bolts inserts, channel frames, and all items furnished under other Sections and by other Divisions that are to be built into the concrete.
   3. Hand excavation required for placing forms and concrete.
   4. Install and grout all steel leveling plates and install anchor bolts for structural steel framing. Plates and bolts are furnished under the Section for Structural Steel.

1.4 SUBMITTALS

A. Product Data: For each type of manufactured material and product indicated.

B. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork. Shop drawings and calculations shall be signed and sealed by a qualified professional engineer licensed to practice in the State of New York. Design and engineering of formwork are Contractor's responsibility.

C. Lap length schedule(s) developed.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of New York and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring and reshoring installations that are similar to those indicated for this Project in material, design, and extent.

1.6 PRODUCT HANDLING

A. Store materials properly to prevent damage and defacing of form surfaces. Damaged or defaced form materials are not acceptable, and shall be removed from site.

1.7 APPLICABLE CODES, STANDARDS AND SPECIFICATIONS

A. Work under this Section shall conform to the following, except as modified herein.
   1. American Concrete Institute, ACI 318, “Building Code Requirements for Reinforced Concrete”, and ACI 347, “Guide to Formwork for Concrete”.
   2. American Society for Testing and Materials (ASTM), Standard Specifications and Methods of Testing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Forms for concrete.
   1. 3/4" or 5/8" plywood, Product Standard PS 1-95, Exterior BB Concrete Form, Class 1, APA grade trademarked.
   2. Form liner, 1/4" hard pressed fiberboard treated for concrete formwork.
   3. Studs, wales, braces, 2" x 4" minimum, S4S, No. 2 or better Southern Pine, Douglas Fir.
   4. Steel or other form system, used only upon prior approval by Engineer of Record.

B. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch minimum.

C. Ties at waterproofing surfaces. Furnish ties with integral water-barrier plates to walls indicated to receive damp proofing or waterproofing.

D. Form ties, minimum working stress 3,000 pounds, no metal left closer than 1" from the finished concrete surface, Dayton-Superior "Snap-tie". For heavy walls, Dayton-Superior "Coil Tie".

E. Form release agent, “Form Free” by Anti-Hydro, “Cast-Off” by BASF-Sonneborn, Inc., “Duogard” by W.R. Meadows.

F. Non-shrink grout, “Masterflow 713” grout by Master Builders Co., “Axpandcrete-S Hi-Flow” by Anti-Hydro, “Sonogrout” of BASF-Sonneborn.

PART 3 - EXECUTION

3.1 PREPARATION

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows.

1. Class A, 1/8 inch.
2. Class B, 1/4 inch.
3. Class C, 1/2 inch.
4. Class D, 1 inch.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.
   1. Do not use rust-stained steel form-facing material.

E. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
   1. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

F. Layout, lines and levels, are to be located from property monuments and benchmarks.

G. Erect batter boards, secure them against movement or displacement and protect them from damage.

H. Perform all hand excavation required to trim excavations and trenches for placing forms and concrete.
   1. Bearing surfaces, clean, solid, true to line and grade, level or stepped as required, free from loose earth, debris and water.
   2. Foundations and footings to bear on undisturbed soil or prepared subgrade.
   3. Excess excavation under foundations, fill with concrete at no extra cost to Owner.
   4. Protect sides of excavations where necessary to prevent sliding or caving of banks.
   5. Maintain excavations free of water from any source at all times.

3.2 ERECTION

A. All form materials shall be new when first used on the project and may be reused if the surfaces are undamaged and properly cleaned and oiled.

B. Construct suitable and adequate forms, conforming to the shapes, lines, grades and dimensions required by drawings
   1. The responsibility for safety, strength and stiffness rests solely with the Contractor.
   2. All forms are to be inspected prior to placing concrete, by the Contractor for construction, alignment, cleanliness and conformity with drawings and specifications.

C. Erect forms plumb, level, true to line, braced, mortar tight, tied and supported to maintain proper position and shape during and after placing concrete.
   1. Fabricate forms to assure proper placing of reinforcing.
   2. Provide temporary openings for inspection of forms and removal of chips, debris and trash.
   3. Brace all forms adequately to prevent movement, bulging, or deformation during and after placing concrete.

D. Construct footing forms of the materials specified, braced, clamped, tied and staked to maintain dimensions. Stakes shall be located and driven to prevent disturbing footing bearing.

E. Construct wall forms of material specified with wales not less than double 2" x 4", spaced not over 24" on center. Secure specified form ties to wales, spaced not over 27" on center vertically.

3.3 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   1. Install anchor bolts, accurately located, to elevations required.

3.4 BUILT-IN WORK

A. Construct all chases, wall pockets and openings shown, specified and required to be provided in concrete work. Place and secure in exact position all anchors, hangers, inserts, lintels, frames, bolts, sleeves, etc., required to be built in as part of the work of this Section.

B. Notify all Contractors and Subcontractors to place and secure all items specified or required to be built into the concrete work.

C. Install built-in work in strict accordance with the directions of the manufacturer of the items, instructions of the Contractor furnishing items, details shown on drawings, and approved shop drawings.
   1. Install anchor bolts, accurately located, to elevations required.
   2. After all items are placed and secured in the forms by the respective Contractors and Subcontractors, the General Contractor shall be responsible for any displacement of such items and for any rebuilding made necessary by the displacement, except for items omitted or improperly located.

3.5 REMOVING AND REUSING FORMS

A. All forms left in place for not less than the following periods of time. These periods are the cumulative number of days that the temperature of the concrete is above 50 degrees F and are not necessarily consecutive.
   1. Pilasters 3 days
   2. Other parts 3 days

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.6 SHORES AND RESHORES

A. Comply with ACI 318 (ACI 318M), ACI 301, and recommendations in ACI 347R for design, installation, and removal of shoring and reshoring.

B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide

adequate reshoring to support construction without excessive stress or deflection.

3.7 SETTING LEVELING PLATES

A. Set leveling plates and anchor bolts furnished and delivered under Section for Structural Steel, including steel shims.
   1. Leveling plates shall be set flat and to exact elevation then grouted with non-shrink grout, mixed and placed in strict accordance with printed directions of manufacturer.
   2. Anchor bolts are to be set and held to line and elevation with templates.
   3. Where concrete or grout is supporting structural steel, the concrete or grout shall have obtained its full strength prior to steel erection.

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END OF SECTION 031000

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

B. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following.

1. Footings
2. Foundation Walls
3. Slabs-on-grade and exterior equipment foundations.
4. Slabs on metal deck and interior floor infill.

C. Related Sections:

1. Section 03 10 00 “Concrete Formwork”.
2. Section 03 32 00 “Concrete Reinforcing”.
3. Section 31 63 29 – “Drilled Concrete Piers”

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast- furnace slag, and silica fume; subject to compliance with requirements.

1.4 SUBMITTALS

A. Submit an Environmental Product Declaration (EPD) from the manufacturer for concrete within this specification section, if available. A statement of the contractor’s good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 Environmental labels and declarations, ISO 14044 Environmental management – Life cycle assessment, and ISO 21930 Core rules for environmental product declarations of construction products and services.

B. Product Data: For each type of product indicated.

C. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

Indicate amounts of mixing water to be withheld for later addition at Project site.

D. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

E. Construction Joint Layout: Indicate proposed construction joints required to construct the structure:

1. Location of construction joints is subject to approval of the Architect.

F. Qualification Data: For manufacturer.

G. Welding certificates.

H. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Steel reinforcement and accessories.
4. Waterstops
5. Curing compounds.
6. Bonding agents.
7. Adhesives.
8. Vapor retarders.
9. Joint-filler strips.
10. Repair materials.

I. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:

1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
2. Provide 28-day compressive strength break test results fir each admixture in accordance with ACI.

J. Cold weather concrete placement procedures and adjusted concrete mix designs.

K. Hot weather concrete placement procedures and adjusted concrete mix designs.

1.5 QUALITY ASSURANCE

A. A.Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Plant and Truck Certification Program”
2. All Portland Cement Concrete and/or Bituminous Concrete is to be delivered from automated batching plants as approved and listed by the New York State Department of Transportation

B. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M, "Structural Welding Code - Reinforcing Steel."

E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents.

1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5, 1 through 5 and 7 “Lightweight Concrete”.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Plywood, metal, or other approved panel materials.

B. Exterior-grade plywood panels, suitable for concrete forms, complying with PS 1, and as follows:

1. Structural 1, B-B or better; mill oiled and edge sealed.

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum

D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

E. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that will leave no corrodible metal having less than 1 inch cover to the plane of exposed concrete surface.
2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.
3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.2 STEEL REINFORCEMENT

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 60 percent.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

C. Weldable Reinforcing Bars: ASTM A 706/A 706M, deformed.

D. Plain-Steel Wire: ASTM A1064/A1064M, as drawn.

E. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.

2.3 REINFORCEMENT ACCESSORIES

A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I or Type II. Supplement with the following:

a. Fly Ash: ASTM C 618, Class F.

b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Silica Fume: ASTM C 1240, amorphous silica.

C. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 3/4" inch

a. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Lightweight Aggregate: ASTM C 330, 3/8-inch nominal maximum aggregate size.

E. Water: ASTM C 94/C 94M and potable.

2.5 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer. For concrete at slab depressions to receive moisture sensitive finishes use VL2020 admixture or equivalent. This applies for floor slabs only. Concrete testing shall be a surface test.

C. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
3. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. Euclid Chemical Company (The), an RPM company.
   b. Grace Construction Products, W. R. Grace & Co.
   c. Sika Corporation.
4. Concrete Moisture Vapor Reduction Admixture: "Barrier One High Performance Moisture Vapor Reduction Admixture" as manufactured by Barrier One, Inc., or equivalent. Resilient Flooring Manufacturer to approve final selection of moisture mitigation admixture, for Finish Flooring Warranty."

2.6 BONDING AGENTS

A. Bonding Agent: ASTM C1059, Tye II, Apply bonding agent where freshly placed concrete is in contact with hardened or partially hardened concrete.

1. Eucoweld 2.0 (or equivalent)

2.7 WATERSTOPS

A. Flexible PVC Waterstops: CE CRD-C 572, for embedding in concrete to prevent passage of fluids through joints. Water stops shall be 6" minimum width center-bulb/ribbed type. Factory fabricate corners, intersections, and directional changes.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. BoMetals, Inc.
   b. Greenstreak.
   c. Paul Murphy Plastics Company.
   d. Vinylex Corp.
   e. Profile: Ribbed with center bulb.

2.8 VAPOR RETARDERS

A. Sheet Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape. All vapor retarder- type and installation methods shall meet or exceed the floor finish manufacturer's requirements for moisture mitigation. All seams shall be lapped and sealed. Before installation proof of compaction of subbase is to be done with laser leveling, Final subbase is to be without ruts.

1. Products: Subject to compliance with requirements, available products that may be

incorporated into the Work include, but are not limited to, the following:

a. Fortifiber Building Systems Group; Moistop Ultra 15.
b. Grace Construction Products, W. R. Grace & Co.; Florprufe 120.
c. Meadows, W. R., Inc.; Perminator 15 mil.
d. Stego Industries, LLC; Stego Wrap 15 mil Class A.

2.9 MASONRY ANCHORS

A. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch (0.85 mm) thick, with bent tab anchors.

2.10 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

2.11 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
   1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of Portland cement, which would otherwise be used, by not less than 30 percent. Limit percentage, by weight, of cementitious materials other than Portland Cement in concrete as follows:

   Fly Ash: 20 percent maximum.
   1. Combined Fly Ash and Pozzolan: 25 percent.
   2. Ground Granulated Blast-Furnace Slag: 20 percent.
   3. Silica Fume: 10 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions.

   Use water-reducing high-range water-reducing or plasticizing admixture in concrete, as required and approved, for placement and workability.

2.12 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Foundations, Foundation Walls, Slabs and stairs: Proportion normal-weight concrete mixture as follows:
   1. Minimum Compressive Strength: 4000 psi at 28 days.
   2. Minimum Cementitious Materials Content: 540 lb/cu. yd.

3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Maximum Water-Cementitious Materials Ratio: 0.45.
5. Air Entrainment: 6 percent, plus or minus 1 percent for exterior exposed concrete subject to freeze-thaw.
6. The use of high early cement is not permitted.

2.13 WATERPROOFING HYRAULIC CEMENT

A. Provide rapid setting, high strength repair mortar for stopping leaks in concrete and masonry surfaces. Compressive strength of hydraulic mortars shall meet ASTM C109 and setting time of hydraulic cement shall meet ASTM C 191.

B. Rapid setting, high strength repair mortar for stopping leaks in concrete and masonry surfaces. Comply with the following:

C. Final setting time, ASTM C 191: Less than 5 minutes.

D. Compressive strength, ASTM C 109: 1000 psi @ 2 hours, 2500 psi @ 24 hours, 4500 psi @ 7 days and 5000 psi @ 28 days.

E. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Sika Corporation
2. BASF
3. Water plug

2.14 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.15 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
2. Concrete having temperature greater than 90 deg F shall be rejected for placement.

B. Conform to ACI 318 latest specification for hot weather and cold weather concreting.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Fabricate forms for easy removal without hammering or prying against concrete surfaces.

D. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

E. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

F. Chamfer exterior corners and edges of permanently exposed concrete.

G. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

H. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

I. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete prior to placing concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded. “Wet sticking” shall not be accepted.

Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges.” Anchor rods shall be preset prior to concrete placement.

B. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

C. Install dovetail anchor slots in concrete structures as indicated. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg

3.4 VAPOR RETARDERS

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches or as specified by Manufacturer and seal with manufacturer's

recommended tape.

3.5 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
2. All concrete steel reinforcement shall be preset prior to concrete placement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire. All welded wire reinforcement shall be preset prior to concrete placement.

3.6 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
2. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
3. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
2. Terminate full-width joint-filler strips not less than 1/2 inch below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
4. Sealed isolation joints shall be provided with backer rods as required to obtain the sealer manufacturer's installation requirement.

3.7 WATERSTOPS

A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of the Work. Provide field welded fabricated joints in waterstops according to manufacturer's written instructions.

3.8 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect and water/cement ratio of approved concrete mix design has not been exceeded.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 and the final product is compliant with the approved concrete mix design.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams planes of weakness or cold joints are created. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation. Maximum free drop of concrete shall be 4'-0" tremie chute methods shall be allowed.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

F. Cold-Weather Placement: Comply with ACI 306.1 and as follows (not inclusive). Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

G. Hot-Weather Placement: Comply with ACI 301 and as follows (not inclusive):

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

H. Pumped concrete: Comply with ACI 304 and as follows:

1. Use only rigid lines minimum 5” diameter except where flexible end line sections are required for placement.
2. Concrete shall not be allowed to freefall greater than 4’-0” without Tremie Chute or equivalent.
3. Concrete samples for testing are to be taken from point of discharge.

3.9 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view.

C. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Adequate temporary lighting minimum 20-footcandels is required to be available for finishing operations and in place prior to commencing placing concrete.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces to receive trowel finish.
2. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
3. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.

D. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.

1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.

E. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

F. Floor Flatness and Levelness Tolerances: For flatness and levelness tolerances of floor slabs refer to ACI 117. Testing shall be done in accordance with ASTM E1155, “Standard Test Methods for Determining F_F Floor Flatness and F_L Floor Levelness Numbers.” Contractor shall meet the floor flatness F-Numbers based on finish as follows:

1. Conventional Floors: Not suitable for applied finishes, such as utility rooms with exposed concrete floors.
   a. SOFF = 20
   b. SOFL = 15
2. Moderately Flat Floors: suitable for carpeted finishes.

a. $SOF_F = 25$

b. $SOF_L = 20$

3. Flat Floors: Suitable for tile, vinyl tile and similar finishes.

a. $SOF_F = 35$

b. $SOF_L = 25$

4. F-Numbers must be measured within 72 hours of placing the slab. If measurements are delayed, shrinkage, curling and other factors are outside of the contractor's control can influence the results.

5. Levelness tolerances only apply to slab-on-grade and suspended slabs which are shored prior to placing concrete with the shoring remaining in place until testing is complete.

6. When flatness or levelness tolerances are not met then the floor shall be ground or scarified and repoured to meet specifications.

3.11 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.

3.12 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

F. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

G. Water.

H. Continuous water-fog spray.

I. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

J. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

1. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.

2. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.

K. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period. Curing compound shall comply with ASTM C 309, Type 1, Class A & B.

3.13 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when required by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part Portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that

penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.

2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.14 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Inspections:

1. Steel reinforcement placement.
2. Steel reinforcement welding.
3. Headed bolts, studs and deformed bar anchors.
4. Verification of use of required design mixture.
5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.
7. Verification of concrete strength before removal of shores and forms from beams and slabs.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements: Samples shall be obtained as the concrete is delivered from the mixer to the conveying vehicles used to transport the concrete to the forms. All concrete test cylinders shall be field cured to match the condition of the concrete being placed.

1. Testing Frequency:
   a. Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof, and at least one set for each 5000 sq. ft. of surface area for slabs or walls to be field-cured. Lab-cured test cylinders shall be as directed by,

and the responsibility of the contractor.

b. Obtain one additional composite sample for each day's pour of each concrete mixture to be field-cured.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency at point of placement appears to change.

3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; [ASTM C 173/C 173M, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.one test for each composite sample at point of placement, but not less than one test for each day's pour of each concrete mixture.

4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.

5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

6. Compression Test Specimens:

   a. Cast and laboratory cure at least five standard cylinder specimens for each composite sample to be laboratory cured per ASTM C 192.

   b. Cast and field cure at least five standard cylinder specimens for each composite sample to be field cured per ASTM C 31.

   c. Contractor has the option to cast and cure additional cylinders to be either field or laboratory cured to hold for testing beyond 28 days should 28-day design compressive strength not be achieved by test breaks.

7. Compressive-Strength Tests: ASTM C 39

   a. For concrete mix design verification; Test one set of two laboratory-cured specimens at 7 days and one set of three laboratory-cured specimens at 28 days.

   b. All placed concrete test cylinders; Test one set of two field-cured specimens at 7 days, one set of three field-cured specimens at 28 days and one set for 56 days.

   c. A compressive-strength test shall be the average compressive strength from a set of specimens obtained from same composite sample and tested at age indicated.

8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.

9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

11. Nondestructive Testing: ACI Approved TRI Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

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END OF SECTION 033000

SECTION 03 32 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, apply to this Section.

1.2 SUMMARY

A. Work includes all Concrete Reinforcing required by the Contract, and, in general, includes the following items:

1. Reinforcing and accessories for cast-in-place concrete.
2. Submittals.

B. Related Sections

1. Section 033000 Cast In Place Concrete.

1.3 SUBMITTALS

A. Steel Reinforcement Shop Drawings: Details of fabrication, plans, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement." Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.

B. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel within this specification section, if available. A statement of the contractor’s good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs shall be product specific Type III (Third Party Reviewed), in adherence with ISO Environmental labels and declarations, ISO 14044 Environmental management – Life cycle assessment, and ISO 21930 Core rules for environmental product declarations of construction products and services.

C. Contractor shall review all shop drawing submittal for compliance with design documents prior to submittal to architect for design concept review.

1. Welding Certificates: Copies of certificates for welding procedures and personnel.

D. Material Data: Signed by manufacturers certifying that each of the following items complies with requirements:

1. Steel reinforcement and reinforcement accessories.

E. Letters of Certification, provided from the product manufacturer on the manufacturer’s letterhead, to verify the amount of recycled content.

F. Material Safety Data Sheets (MSDS), for all applicable products. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings applied on the interior of the building. MSDS shall indicate the Volatile Organic Compound (VOC) limits of products submitted (If an MSDS does not include a product's VOC content, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC content).

1.4 QUALITY ASSURANCE

A. Certifications: Affidavit by the bar reinforcement manufacturer certifying that bar material meets the contract requirements.

1. Submit evidence of steel material compliance with this Specification. Evidence shall consist of certification of source of material, copies of purchase orders and manufacturer's certifications. For stock material, submit copies of latest mill or purchase orders for material replacement.
    a. Documentation to confirm compliance with General Conditions Article 25.4 Domestic Steel
2. Fabricator's and Erector's Qualification Data: Name and experience of fabricator and erector.

B. The Contractor agrees, that if the value of this contract exceeds $100,000 all structural steel, reinforcing steel and other major steel items to be incorporated in the Work of this Contract shall be produced and made in whole or substantial part in the United States, its territories or possessions.

1.5 APPLICABLE CODES, STANDARDS AND SPECIFICATIONS

A. Work under this Section shall conform to the following, except as modified herein.

1. American Concrete Institute, ACI 318, Building Code Requirements for Reinforced Concrete, Details and Detailing of Concrete Reinforcement.
2. Concrete Reinforcing Steel Institute (CRSI), Manual of Standard Practice.
3. American Society for Testing and Materials (ASTM), Standard Specifications and Methods for Testing.
4. Specifications for Structural Concrete, ACI 301.

B. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel bar reinforcing, deformed billet steel bars conforming to ASTM A 615 Grade 60, or of the grade indicated on the drawings.

B. Steel mesh reinforcing, welded fabric of cold drawn steel wire, ASTM A 185.Mesh shall be supplied in sheets only.

C. Reinforcing accessories, of suitable types and adequate size to support reinforcing and prevent displacement during concrete placing.

1. Reinforcing accessories including chairs, high chairs, slab bolsters, spacers, screeds, etc., which are in contact with form surfaces where the concrete will be exposed or painted, shall be all plastic or have pre-formed plastic tips of a color compatible with the color of the concrete. Richmond Screw Anchor Corp., Dayton-Superior.

D. Wire for tying, not less than 16 gauge annealed cold drawn, ASTM A82. Galvanized for pours at exterior locations.

E. Steel cross wire clips, welded to 2 continuous longitudinal tie wires, for wrapping structural steel flanges. Reed Clips #040 rigid type by Richmond Screw Anchor Corp. or equal.

PART 3 - EXECUTION

3.1 REINFORCING INSTALLATION

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Shop- or field-weld reinforcement according to AWS D1.4, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing + 2”.

F. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

G. Steel reinforcement is to be formed and installed as shown, specified or required. Straightening or rebending at the site is prohibited.

1. Position reinforcement accurately and secure rigidly against displacement.
2. Support reinforcement to keep away from exposed surfaces of the concrete.
3. Furnish and properly place all bolsters, ties, spacers, chairs, supports and all other required devices and accessories.

H. The minimum concrete covering reinforcing is to be as specified in ACI 318 “Building Code. Requirements for Reinforced Concrete” as follows:

1. Footings and structural members in which concrete is deposited against the ground, not less than 3".

2. Concrete surfaces exposed to weather or in contact with the ground, not less than 2" for bars larger than No. 5, and 1-1/2" for No. 5 and smaller bars.
3. Concrete surfaces not exposed directly to weather or in contact with ground, not less than 3/4" for slabs and walls not less than 1-1/2" for beams, girders and columns.

I. The minimum clear distance between parallel bars except in columns, shall not be less than the nominal diameter of bar, 1-1/3 times maximum size of aggregate or 1".

J. Splices to conform to ACI 318.
1. The minimum lap splice lengths as per appropriate CRSI latest issue of Reinforcing Bar Splices.
2. Fabric lapped splices shall be made so that the overlap measured between outer most cross wires of each fabric sheet is not less than the spacing of the cross wires plus 2 inches.
3. All splices securely wire tied.

K. Dowels from walls to slabs may be installed straight and field bent provided ACI bend radius is maintained. Straightening and re-bending of dowels is prohibited.

L. Reinforcing shall be reviewed by this Contractor prior to placing concrete.

M. Conduit shall not be allowed in slabs.

N. Slabs and toppings, unless otherwise shown on drawings, shall be reinforced with not less than 6 x 6 – W2.9 x W2.9 welded wire mesh.

O. All bars shall be cold bent.

P. All reinforcing shall be securely preset prior to placing concrete.

END OF SECTION 033200

SECTION 03 41 00 PRECAST CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work specified in this section.

1.2 SUMMARY

A. This Section includes structural precast concrete, including the following:
   1. 2” Precast Structural Roof Planks

B. Related Sections (the following Sections contain requirements that relate to this Section)
   1. Cast-in-Place Concrete - Section 03 30 00

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide precast structural concrete units and connections capable of withstanding design loads within limits and under conditions indicated.

B. Structural Performance: Provide precast structural concrete units and connections capable of withstanding the following design loads within limits and under conditions indicated:
   1. Span: 6’-0” minimum with 2-span condition
   2. Live Loads: 20 PSF
   3. Snow Load: Ground (Pg) – 50 PSF
      Flat Roof (Pf) – 47 PSF

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixes: For each concrete mix.

C. Shop Drawings: Detail fabrication and installation of precast structural concrete units. Indicate member locations, plans, elevations, dimensions, shapes, cross sections, openings, and types of reinforcement, including special reinforcement.
   1. Indicate welded connections by AWS standard symbols. Detail loose and cast-in hardware, inserts, connections, and joints, including accessories.
   2. Indicate locations and details of anchorage devices to be embedded in other construction.
   3. Comprehensive engineering analysis signed and sealed by the qualified professional engineer registered in the State of New York responsible for its preparation.

D. Welding Certificates: Copies of certificates for welding procedures and personnel.

E. Material Test Reports: From a qualified testing agency indicating and interpreting test results of the following for compliance with requirements indicated. Material test reports are not required from PCI-Certified plants. However test reports must be retained for audit.

1.5 QUALITY ASSURANCE

A. Comply with provisions of following codes, specifications and standards, except as otherwise indicated.
   1. New York State Building Code
   2. ACI 301 "Standard Specifications for Structural Concrete".
   3. ACI 318 "Building Code Requirements for Structural Concrete".

4. PCI MNL 116, "Manual for Quality Control for Plants and Production of Precast Concrete Products".

B. Installer Qualifications: An experienced installer who has completed a minimum of 5 years of precast structural concrete work experience that is similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Fabricator Qualifications: A firm that complies with the following requirements and is experienced in manufacturing precast structural concrete units similar to those indicated for this Project and with a record of successful in-service performance.
1. Assumes responsibility for engineering precast structural concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified Professional Engineer.
2. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of New York and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of precast structural concrete that are similar to those indicated for this Project in material, design, and extent.
3. Participates in PCI's Plant Certification program and is designated a PCI-certified plant for Group C, Category C4.
4. Has sufficient production capacity to produce required units without delaying the Work.

D. Design Standards: Comply with ACI 318 (ACI 318M) and the design recommendations of PCI MNL 120, "PCI Design Handbook--Precast and Prestressed Concrete."

E. Quality-Control Standard: For manufacturing procedures and testing requirements, quality control recommendations, and camber and dimensional tolerances for types of units required, comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products."

F. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel"; and AWS D1.4, "Structural Welding Code--Reinforcing Steel."

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver precast concrete units to the project site in such quantities and at such times to assure continuity of installation. Store units at the project site to ensure against cracking, distortion, staining, or other physical damage, and so that markings are visible. Lift and support units at designated lift points. Deliver anchorage items that are to be embedded in other construction before start of such work. Provide setting diagrams, templates instructions and directions as required for installation.

1.7 SEQUENCING

A. Furnish anchorage items to be embedded in other construction without delaying the Work. Provide setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

2.1 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A615, Grade 60 or ASTM A706 weld able, unless otherwise indicated.

B. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing, complying with CRSI recommendations.

2.2 PRESTRESSING TENDONS

A. Uncoated, 7-wire stress-relieved strand complying with ASTM A 416. Use grade 250 or 270. Low-relaxation strand.

2.3 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Type I or Type Ill, of same type, and source.

B. Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.

C. Lightweight Aggregates: ASTM C 330.

D. Water: Potable or free from foreign materials in amounts harmful to concrete and embedded steel.

E. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

F. Water-Reducing Admixture: ASTM C 494, Type A.

G. Retarding Admixture: ASTM C 494, Type B.

H. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

I. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.

J. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.

K. Plasticizing Admixture: ASTM C 1017.

L. Fly Ash Admixture: ASTM C 618, Class F.

M. Metakaolin Admixture: ASTM C 618, Class N.

N. Silica Fume Admixture: ASTM C 1240.

2.4 STEEL CONNECTION MATERIALS

A. Carbon-Steel Shapes and Plates: ASTM A 36/A 36M.

B. Carbon-Steel Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished; AWS D1.1, Type A or B, with arc shields.

C. Malleable Steel Castings: ASTM A 47 (ASTM A 47M).

D. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706/A 706M.

E. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); carbon-steel, hex-head bolts and studs; carbon-steel nuts; and flat, unhardened steel washers.

F. High-Strength Bolts and Nuts: ASTM A 325 (ASTM A 325M), Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers.

G. Shop-Primed Finish: Prepare surfaces of non-galvanized steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3 and shop-apply lead and chromate free, rust-inhibitive primer, complying with performance requirements in SSPC-Paint

25 according to SSPC-PA1.

H. Welding Electrodes: Comply with AWS standards.

I. Accessories: Provide clips, hangers, plastic shims, and other accessories required to install precast structural concrete units.

2.5 BEARING PADS

A. Provide bearing pads for precast structural concrete units as follows:
1. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, molded to size or cut from a molded sheet, 50 to 70 Shore A durometer, minimum tensile strength 2250 psi (15.5 MPa) per ASTM D 412.

2.6 CONCRETE MIXES

A. Normal-Weight Concrete: Proportion mixes by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal weight concrete with the following properties:
1. Compressive Strength (28 Days): 5000 psi (34.5 MPa).
2. Maximum Water-Cementitious Materials Ratio: 0.40.
3. Add air-entraining admixture at manufacturer's prescribed rate to result in normal- weight concrete at point of placement having an air content as follows, with a tolerance of plus or minus 1-1/2 percent:
a. Air Content: 6 percent for 3/4-inch- (19-mm-) nominal maximum aggregate size.

2.7 GROUT MATERIALS

A. Cement Grout: Portland cement, ASTM C 150, Type 1, and clean, natural sand, ASTM C 144. Mix at ratio of 1.0 part cement to 2.5 parts sand, by volume with minimum water required for placement and hydration.

2.8 FABRICATION

A. Formwork: Accurately construct forms, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for pretensioning and detensioning operations. Maintain formwork to provide completed precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances.
1. Coat surfaces of forms with bond-breaking compound before reinforcement is placed. Provide commercial-formula, form-coating compounds that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces requiring bond or adhesion. Apply in compliance with manufacturer's written instructions.
2. Unless forms for precast, prestressed concrete units are stripped before detensioning, design forms so stresses are not induced in precast concrete units because of deformation or movement of concrete during detensioning.

B. Built-in Anchorages: Accurately position built-in anchorage devices and secure to formwork. Locate anchorages where they do not affect position of main reinforcement or concrete placement. Do not relocate bearing plates in units unless approved by Architect.

C. Cast-in openings larger than 10 inches (250 mm) in diameter or 10 inches (250 mm) square according to Shop Drawings. Smaller holes may be field cut by trades requiring them, as approved by Architect.

D. Reinforcement: Comply with recommendations in CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete.
2. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete-placement operations. Locate and support reinforcement by metal chairs, runners, bolsters, spacers, and hangers, as required.
3. Place reinforcement to obtain at least the minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
4. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Prestress tendons for precast structural concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 116.
1. Delay detensioning until concrete has reached at least 70 percent of its compressive strength as established by test cylinders cured under the same conditions as concrete.
2. If concrete has been heat cured, detension while concrete is still warm and moist to avoid dimensional changes that may cause cracking or undesirable stresses.
3. Detension pretensioned tendons either by gradually releasing tensioning jacks or by heat cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.

F. Mix concrete according to PCI MNL 116 and requirements in this Section. After concrete batching, no additional water may be added.

G. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units. Comply with requirements in PCI MNL 116 for measuring, mixing, transporting, and placing concrete.

H. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items. Use equipment and procedures complying with PCI MNL 116.

I. Comply with ACI 306.1 procedures for cold-weather concrete placement.

J. Comply with ACI 305R recommendations for hot-weather concrete placement.

K. Identify pickup points of precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint casting date on each precast concrete unit on a surface that will not show in finished structure.

L. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture.

M. Product Tolerances: Fabricate precast structural concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with PCI MNL 116 product tolerances.

N. Finish formed surfaces of precast structural concrete as indicated for each type of unit, and as follows:
1. Standard Finish: Normal plant-run finish produced in forms that impart a smooth finish to concrete. Small surface holes caused by air bubbles, normal color variations, form joint marks, and minor chips and spalls will be tolerated. Major or unsightly imperfections, honeycombs, or structural defects are not permitted.
2. Commercial Finish: Remove fins and large protrusions and fill large holes. Rub or grind

ragged edges. Faces are to be true, well-defined surfaces.

O. Recess prestressing tendons a minimum of 1/2 inch (13 mm), fill recesses with grout, and apply a sack finish to vertical ends of precast concrete units.

2.9 2" ROOF PLANK UNITS

A. Precast prestressed concrete units with open voids running full length of slabs, produced under a rigid factory-inspected process acceptable to Architect.

B. Furnish units which are free of voids or honeycombs, with straight true edges and surfaces.

C. Provide "Standard Finish" units unless otherwise indicated.

D. Manufacturer units of concrete materials which will provide a minimum 3500 psi compressive strength at time of initial prestress and a 28-day compressive strength of 5000 psi.

E. Adequately reinforce slab units to resist transporting and handling stresses. Field determine requirements and provide joints acceptable for added/replacement planks being located adjacent, and flush against, existing 2" precast roof planks such that structural integrity of the roof system's precast roof planks is maintained.

2.10 SOURCE QUALITY CONTROL

A. Strength of precast concrete units will be considered deficient if units fail to comply with PCI MNL 116 requirements, including the following:
1. Units fail to comply with compressive-strength test requirements.
2. Reinforcement and prestressed tendons of units do not comply with fabrication requirements.

B. Testing: If there is evidence that the strength of precast concrete units may be deficient or may not comply with PCI MNL 116 requirements, Owner will employ an independent testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42.
1. A minimum of three representative cores will be taken from units of suspect strength, from locations directed by Architect.
2. Cores will be tested, after immersion in water, in a wet condition per ACI 301 if units will be wet under service conditions.
3. Cores will be tested in an air-dry condition per ACI 301 if units will be dry under service conditions.
4. Strength of concrete for each series of 3 cores will be considered satisfactory if the average compressive strength is equal to at least 85 percent of the 28-day design compressive strength and no single core is less than 75 percent of the 28-day design compressive strength.
5. Test results will be made in writing on the same day that tests are performed, with copies to Architect, Contractor, and precast concrete fabricator. Test reports will include the following:
    a. Project identification name and number.
    b. Date when tests were performed.
    c. Name of precast concrete fabricator.
    d. Name of concrete testing agency.
    e. Identification letter, name, and type of precast concrete unit or units represented by core tests; design compressive strength; type of break; compressive strength at break, corrected for length-diameter ratio; and direction of applied load to core in relation to horizontal plane of concrete as placed.

C. Patching: If core test results are satisfactory and precast concrete units comply with requirements, clean and dampen core holes and solidly fill with precast concrete mix that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.

D. Dimensional Tolerances: Units with dimensions smaller or larger than required and not complying with tolerance limits may be subject to additional testing.
   1. Precast concrete units with dimensions larger than required will be rejected if the appearance or function of the structure is adversely affected or if larger dimensions interfere with other construction. Repair or remove and replace rejected units, as required, to comply with construction conditions.

E. Defective Work: Precast concrete units that do not comply with requirements, including strength, manufacturing tolerances, and finishes, are unacceptable. Replace with precast concrete units that comply with requirements.

PART 3 - EXECUTION

3.1 INSPECTION

A. Erector must examine supporting structure and conditions under which precast concrete work is to be erected, and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with installation until unsatisfactory conditions have been corrected in a manner acceptable to Erector.

3.2 INSTALLATION, GENERAL

A. After precast concrete units have been placed and secured, grout open spaces at connections and joints with Cement Grout that has been determined to be acceptable to the certifying Engineer.

B. Bearing Pads: Install bearing pads as precast concrete units are being erected. Set pads on true, level, and uniform bearing surfaces and maintain in correct position until precast concrete units are placed.

C. Install precast structural concrete. Shore and brace precast concrete units to maintain location, stability, and alignment until permanent connections are installed.

D. Welding: Perform welding in compliance with AWS D1.1 and AWS D1.4, with qualified welders.
   1. Protect precast concrete units and bearing pads from damage by field welding or cutting operations and provide noncombustible shields as required.
   2. Repair damaged metal surfaces by cleaning and applying a coat of galvanized repair paint to galvanized surfaces.
   3. Repair damaged metal surfaces by cleaning and repriming damaged painted surfaces.

E. Fasteners: Do not use drilled or powder-actuated fasteners for attaching accessory items to precast, prestressed concrete units unless approved by Architect.

F. Erection Tolerances: Install precast concrete units level, plumb, square, and true, without exceeding the recommended erection tolerances in PCI MNL 127, "Recommended Practice for Erection of Precast Concrete."

G. Grouting Connections and Joints: After precast concrete units have been placed and secured, grout open spaces at keyways, connections, and joints as follows:
   1. Provide forms or other approved method to retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely

filled. Place grout to finish smooth, level, and plumb with adjacent concrete surfaces. Keep grouted joints damp for not less than 24 hours after initial set. Promptly remove grout material from exposed surfaces before it hardens.

3.3 ACCEPTANCE

A. All defective units shall be repaired by the precast supplier to meet satisfaction of the Architect / Engineer.

B. Units deemed "not repairable" shall be removed from the site and replaced at the cost of the precast manufacturer.

END OF SECTION 034100

SECTION 040110 - MASONRY CLEANING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Section includes cleaning the following:
   1. Unit masonry surfaces.
   2. Stone surfaces.

1.2 RELATED REQUIREMENTS

A. Section 040120.63 - Masonry Repair.

B. Section 040120.64 - Masonry Repointing.

1.3 ALLOWANCES

A. Allowances for cleaning masonry are specified in Section 012100 - Allowances.

1.4 DEFINITIONS

A. Very Low-Pressure Spray: Under 100 psi.

B. Low-Pressure Spray: 100 to 400 psi; 4 to 6 gpm.

C. Medium-Pressure Spray: 400 to 800 psi; 4 to 6 gpm.

D. High-Pressure Spray: 800 to 1200 psi; 4 to 6 gpm.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to cleaning masonry including, but not limited to, the following:
      a. Verify masonry-cleaning equipment and facilities needed to make progress and avoid delays.
      b. Materials, material application, and sequencing.
      c. Cleaning program.
      d. Coordination with building occupants.

1.6 SEQUENCING AND SCHEDULING

A. Work Sequence: Perform masonry-cleaning work in the following sequence:
   1. Remove plant growth.
   2. Inspect for open mortar joints. Where repairs are required, delay further cleaning work until after repairs are completed, cured, and dried to prevent the intrusion of water and other cleaning materials into the wall.

3. Remove paint.
4. Clean masonry surfaces.
5. Where water repellents are to be used on or near masonry, delay application of these chemicals until after cleaning.

B. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units according to masonry repair Sections. Patch holes in mortar joints according to masonry repointing Sections.

1.7 SUBMITTALS

A. Product Data: For each type of product.
1. Include material descriptions and application instructions.
2. Include test data substantiating that products comply with requirements.

1.8 QUALITY ASSURANCE

A. Paint-Remover Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-authorized service representatives who are available for consultation and Project-site inspection, preconstruction product testing, and on-site assistance.

B. Chemical-Cleaner Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-authorized service representatives who are available for consultation and Project-site inspection, preconstruction product testing, and on-site assistance.

C. Cleaning Program: Prepare a written cleaning program that describes cleaning process in detail, including materials, methods, and equipment to be used; protection of surrounding materials; and control of runoff during operations. Include provisions for supervising worker performance and preventing damage.
1. If materials and methods other than those indicated are proposed for any phase of cleaning work, add a written description of such materials and methods, including evidence of successful use on comparable projects and demonstrations to show their effectiveness for this Project.

D. Mockups: Prepare mockups of cleaning on existing surfaces to demonstrate aesthetic effects and to set quality standards for materials and execution.
1. Cleaning: Clean an area approximately 25 sq. ft. for each type of masonry and surface condition.
a. Test cleaners and methods on samples of adjacent materials for possible adverse reactions. Do not test cleaners and methods known to have deleterious effect.
b. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

1.9 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage one or more chemical-cleaner and paint-remover manufacturers to perform preconstruction testing on masonry surfaces.
   1. Use test areas as indicated and representative of proposed materials and existing construction.
   2. Propose changes to materials and methods to suit Project.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit masonry-cleaning work to be performed according to product manufacturers' written instructions and specified requirements.

B. Clean masonry surfaces only when air temperature is 40 deg F (4 deg C) and above and is predicted to remain so for at least seven days after completion of cleaning.

PART 2 PRODUCTS

2.1 PAINT REMOVERS

A. Alkaline Paste Paint Remover: Manufacturer's standard alkaline paste or gel formulation, for removing paint from masonry; containing no methylene chloride.
   1. Basis of Design: CWD Group, LLC; ChemWorld Paint Stripper High Alkaline Cleaner: www.chemworld.com.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Solvent-Type Paste Paint Remover: Manufacturer's standard water-rinsable, solvent-type paste or gel formulation, for removing paint from masonry.
   1. Basis of Design: Chemique, Inc.; StripIt Safer Solvent Based Paint Remover: www.chemique.com.
   2. Substitutions: See Section 016000 - Product Requirements.

2.2 CLEANING MATERIALS

A. Water: Potable.

B. Hot Water: Water heated to a temperature of 140 to 160 deg F.

C. Detergent Solution, Job Mixed: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium pyrophosphate (TSPP), 1/2 cup (125 mL) of laundry detergent, and 20 quarts (20 L) of hot water for every 5 gal. (20 L) of solution required.

D. Two-Part Chemical Cleaner (Final Cleaning): Manufacturer's standard system consisting of potassium- or sodium-hydroxide-based, alkaline prewash cleaner and acidic afterwash cleaner that does not contain hydrofluoric acid.
   1. American Building Restoration Products, Inc.; 500 Limestone Prewash Cleaner followed by 500 Limestone Afterwash: www.abrp.com.
   2. Diedrich Technologies Inc., a Hohmann & Barnard company; Diedrich 808 Limestone Pre-Wash followed by 707N Limestone Neutralizer After-Rinse: www.https://www.diedrichtechnologies.com.
   3. Prosoco, Inc.; Enviro Klean BioKlean followed by Sure Klean Limestone & Masonry Afterwash: www.prosoco.com.

4. Substitutions: See Section 016000 - Product Requirements.

2.3 ACCESSORY MATERIALS

A. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, glazed masonry, and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.
   1. Basis of Design: American Building Restoration Products, Inc.; Rubber Mask: www.abrp.com.
   2. Substitutions: See Section 016000 - Product Requirements.

2.4 CHEMICAL CLEANING SOLUTIONS

A. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended in writing by chemical-cleaner manufacturer.

PART 3 EXECUTION

3.1 PROTECTION

A. Comply with each manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent paint removers and chemical cleaning solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
   1. Cover adjacent surfaces with materials that are proven to resist paint removers and chemical cleaners used unless products being used will not damage adjacent surfaces. Use protective materials that are waterproof and UV resistant. Apply masking agents according to manufacturer's written instructions. Do not apply liquid strippable masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
   2. Do not apply chemical solutions during winds of enough force to spread them to unprotected surfaces.
   3. Neutralize alkaline and acid wastes before disposal.
   4. Dispose of runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

B. Remove gutters and downspouts and associated hardware adjacent to immediate work area and store during masonry cleaning. Reinstall when masonry cleaning is complete.
   1. Provide temporary rain drainage during work to direct water away from building.

3.2 CLEANING MASONRY, GENERAL

A. Cleaning Appearance Standard: Cleaned surfaces are to have a uniform appearance as viewed from 20 feet away by Architect.

B. Proceed with cleaning in an orderly manner; work from bottom to top of each scaffold width and from one end of each elevation to the other. Ensure that dirty residues and rinse water do not wash over dry, cleaned surfaces.

C. Use only those cleaning methods indicated for each masonry material and location.
   1. Brushes: Do not use wire brushes or brushes that are not resistant to chemical cleaner being used.
   2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that cleaning methods do not damage surfaces, including joints.
      a. Equip units with pressure gages.
      b. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with nozzle having a cone-shaped spray.
      c. For water-spray application, use fan-shaped spray that disperses water at an angle of 25 to 50 degrees.
      d. For high-pressure water-spray application, use fan-shaped spray that disperses water at an angle of at least 40 degrees.
      e. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.
      f. For steam application, use steam generator capable of delivering live steam at nozzle.

D. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces. Keep wall wet below area being cleaned to prevent streaking from runoff.

E. Perform additional general cleaning, paint and stain removal, and spot cleaning of small areas that are noticeably different when viewed according to the "Cleaning Appearance Standard" Paragraph, so that cleaned surfaces blend smoothly into surrounding areas.

F. Water Application Methods:
   1. Water-Soak Application: Soak masonry surfaces by applying water continuously and uniformly to limited area for time indicated. Apply water at low pressures and low volumes in multiple fine sprays using perforated hoses or multiple spray nozzles. Erect a protective enclosure constructed of polyethylene sheeting to cover area being sprayed.
   2. Water-Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6 inches from masonry surface and apply water in horizontal back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.

G. Steam Cleaning: Apply steam to masonry surfaces at the very low pressures indicated for each type of masonry. Hold nozzle at least 6 inches from masonry surface and apply steam in horizontal back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.

H. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces according to chemical-cleaner manufacturer's written instructions; use brush or spray application. Do not spray apply at pressures exceeding 50 psi. Do not allow chemicals to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.

I. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.

1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.

J. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.3 PRELIMINARY CLEANING

A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing remaining growth to dry as long as possible before removal. Remove loose soil and plant debris from open joints to whatever depth they occur.

B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to planned cleaning methods. Extraneous substances include paint, calking, asphalt, and tar.
1. Carefully remove heavy accumulations of rigid materials from masonry surface with sharp chisel. Do not scratch or chip masonry surface.
2. Remove paint and calking with alkaline paint remover.
   a. Comply with requirements in "Paint Removal" Article.
   b. Repeat application up to two times if needed.
3. Remove asphalt and tar with solvent-type paste paint remover.
   a. Comply with requirements in "Paint Removal" Article.
   b. Apply paint remover only to asphalt and tar by brush without prewetting.
   c. Allow paint remover to remain on surface for 10 to 30 minutes.
   d. Repeat application if needed.

3.4 PAINT REMOVAL

A. Paint-Remover Application, General: Apply paint removers according to paint-remover manufacturer's written instructions. Do not allow paint removers to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.

B. Paint Removal with Alkaline Paste Paint Remover:
1. Remove loose and peeling paint using low -pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted surface with brushes.
3. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.
4. Rinse with cold water applied by low -pressure spray to remove chemicals and paint residue.
5. Repeat process if necessary to remove all paint.
6. Apply acidic cleaner or manufacturer's recommended afterwash to surface, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended in writing by chemical-cleaner or afterwash manufacturer.
7. Rinse with cold water applied by low -pressure spray to remove chemicals and soil.

C. Paint Removal with Covered or Skin-Forming Alkaline Paint Remover:

1. Remove loose and peeling paint using low -pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted surface with trowel, spatula, or as recommended in writing by manufacturer.
3. Apply cover according to manufacturer's written instructions.
4. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.
5. Scrape off paint and remover.
6. Rinse with cold water applied by low -pressure spray to remove chemicals and paint residue.
7. Apply acidic cleaner or manufacturer's recommended afterwash to surface, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended in writing by chemical-cleaner or afterwash manufacturer.
8. Rinse with cold water applied by low -pressure spray to remove chemicals and soil.
9. For spots of remaining paint, apply alkaline paste paint remover, according to "Paint Removal with Alkaline Paste Paint Remover" Paragraph.

D. Paint Removal with Solvent-Type Paste Paint Remover:
1. Remove loose and peeling paint using low -pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply thick coating of paint remover to painted surface with natural-fiber cleaning brush, deep-nap roller, or large paint brush. Apply in one or two coats according to manufacturer's written instructions.
3. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.
4. Rinse with cold water applied by low -pressure spray to remove chemicals and paint residue.

E. Paint Removal with Covered, Solvent-Type Paste Paint Remover:
1. Remove loose and peeling paint using low -pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted surface with trowel, spatula, or as recommended in writing by manufacturer.
3. Apply cover according to manufacturer's written instructions.
4. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.
5. Scrape off paint and remover.
6. Rinse with cold water applied by low -pressure spray to remove chemicals and paint residue.

3.5 CLEANING MASONRY

A. Cold-Water Soak:
1. Apply cold water by intermittent spraying to keep surface moist.
2. Use perforated hoses or other means that apply a fine water mist to entire surface being cleaned.
3. Apply water in cycles of five minutes on and 20 minutes off.
4. Continue spraying until surface encrustation has softened enough to permit its removal by water wash, as indicated by cleaning tests.

5. Remove soil and softened surface encrustation from surface with cold water applied by low-pressure spray.

B. Cold-Water Wash: Use cold water applied by low -pressure spray.

C. Hot-Water Wash: Use hot water applied by low -pressure spray.

D. Steam Cleaning: Apply steam at very low pressures not exceeding 30 psi. Remove dirt softened by steam with wood scrapers, stiff-nylon or -fiber brushes, or cold-water wash, as indicated by cleaning tests.

E. Detergent Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Scrub surface with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet.
3. Rinse with cold water applied by low -pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

F. Mold, Mildew, and Algae Removal:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub surface with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that surface remains wet.
4. Rinse with cold water applied by low -pressure spray to remove mold, mildew, and algae remover and soil.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

G. Nonacidic Gel Chemical Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply gel cleaner in 1/8-inch (3-mm) thickness by brush, working into joints and crevices. Apply quickly and do not brush out excessively, so area is uniformly covered with fresh cleaner and dwell time is uniform throughout area being cleaned.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Remove bulk of gel cleaner.
5. Rinse with cold water applied by low -pressure spray to remove chemicals and soil.
6. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

H. Nonacidic Liquid Chemical Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply cleaner to surface in two applications by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer???Insert requirement???.

4. Rinse with cold water applied by low -pressure spray to remove chemicals and soil.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

I. Mild-Acid Chemical Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply cleaner to surface in two applications by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Rinse with cold water applied by low -pressure spray to remove chemicals and soil.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

J. Acidic Chemical Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply cleaner to surface in two applications by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Rinse with cold water applied by low -pressure spray to remove chemicals and soil. Rinse until all foaming, if any, stops and suds disappear.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

K. One-Part Limestone Chemical Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply cleaner to surface by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Immediately repeat application of one-part limestone cleaner as indicated above over the same area.
5. Rinse with cold water applied by medium-pressure spray to remove chemicals and soil.

L. Two-Part Chemical Cleaning:
1. Wet surface with cold water applied by low-pressure spray.
2. Apply alkaline prewash cleaner to surface by brush or roller.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer unless otherwise indicated.
4. Rinse with cold water applied by medium-pressure spray to remove chemicals and soil.
5. Apply acidic afterwash cleaner to surface in two applications, while surface is still wet, using low-pressure spray equipment, deep-nap roller or soft-fiber brush. Let neutralizer remain on surface for period recommended in writing by manufacturer unless otherwise indicated.
6. Rinse with cold water applied by medium-pressure spray to remove chemicals and soil. Rinse until surface reaction value is between pH 5 and pH 9 according to pH-measuring paper, pen, or indicator solution.
7. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once.

3.6 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage paint-remover manufacturer's and chemical-cleaner manufacturer's factory-authorized service representatives for consultation and Project-site inspection, to perform preconstruction product testing and provide on-site assistance when requested by Architect. Have paint-remover manufacturer's and chemical-cleaner manufacturer's factory-authorized service representatives visit Project site not less than once to observing progress and quality of the work.

3.7 FINAL CLEANING

A. Clean adjacent nonmasonry surfaces of spillage and debris. Use detergent and soft brushes or cloths.

B. Remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

C. Remove masking materials, leaving no residues that could trap dirt.

END OF SECTION 040110

SECTION 040120.63 - MASONRY REPAIR

PART 1 GENERAL

1.1 SECTION INCLUDES:

A. Repairing brick masonry.

B. Removing abandoned anchors.

C. Painting steel uncovered during the work.

1.2 RELATED REQUIREMENTS:

A. Section 040110 - Masonry Cleaning.

B. Section 040120.64 - Masonry Repointing.

C. Section 042000 - Unit Masonry.

1.3 REFERENCE STANDARDS

A. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.

B. ASTM C91/C91M - Standard Specification for Masonry Cement.

C. ASTM C114 - Standard Test Methods for Chemical Analysis of Hydraulic Cement.

D. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.

E. ASTM C150/C150M - Standard Specification for Portland Cement.

F. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.

G. ASTM C270 - Standard Specification for Mortar for Unit Masonry.

H. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete.

I. ASTM C1329/C1329M - Standard Specification for Mortar Cement.

1.4 DEFINITIONS

A. Low-Pressure Spray: 100 to 400 psi; 4 to 6 gpm.

B. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.

C. Saturation Coefficient: Ratio of the weight of water absorbed during immersion in cold water to weight absorbed during immersion in boiling water; used as an indication of resistance of bricks to freezing and thawing.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to brick masonry repair including, but not limited to, the following:
      a. Verify brick masonry repair specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
      b. Materials, material application, sequencing, tolerances, and required clearances.
      c. Quality-control program.
      d. Coordination with building occupants.

1.6 SEQUENCING AND SCHEDULING

A. Order sand and gray portland cement for colored mortar immediately after approval of mockups. Take delivery of and store at Project site enough quantity to complete Project.

B. Work Sequence: Perform brick masonry repair work in the following sequence, which includes work specified in this and other Sections:
   1. Remove plant growth.
   2. Inspect masonry for open mortar joints and point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
   3. Remove paint.
   4. Clean masonry.
   5. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
   6. Repair masonry, including replacing existing masonry with new masonry materials.
   7. Rake out mortar from joints to be repointed.
   8. Point mortar and sealant joints.
   9. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
   10. Where water repellents are to be used on or near masonry work, delay application of these chemicals until after pointing and cleaning.
   11. Where graffiti-resistant coatings are to be used on or near masonry, delay application of until after cleaning.

C. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in bricks according to "Brick Masonry Patching" below. Patch holes in mortar joints according to Section 040120.64 - Masonry Repointing.

1.7 SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
   2. Include recommendations for product application and use.
   3. Include test data substantiating that products comply with requirements.

B. Shop Drawings:
   1. Include plans, elevations, sections, and locations of replacement bricks on the structure, showing relation of existing and new or relocated units.

2. Show provisions for expansion joints or other sealant joints.
3. Show provisions for flashing, lighting fixtures, conduits, and weep holes as required.
4. Show locations of scaffolding and points of scaffolding in contact with masonry. Include details of each point of contact or anchorage.

C. Samples for Initial Selection: For the following:
1. Colored Mortar: Submit sets of mortar that will be left exposed in the form of sample mortar strips, 6 inches long by 1/4 inch wide, set in aluminum or plastic channels.
a. Have each set contain a close color range of at least three samples of different mixes of colored sands and cements that produce a mortar matching existing, cleaned mortar when cured and dry.
b. Submit with precise measurements on ingredients, proportions, gradations, and source of colored sands from which each sample was made.
2. Sand Types Used for Mortar: Minimum 8 oz. of each in plastic screw-top jars.
3. Patching Compound: Submit sets of patching compound Samples in the form of plugs (patches in drilled holes) in sample units of masonry representative of the range of masonry colors on the building.
a. Have each set contain a close color range of at least three samples of different mixes of patching compound that matches the variations in existing masonry when cured and dry.
4. Include similar samples of accessories involving color selection.

D. Samples for Verification: For the following:
1. Each type of brick unit to be used for replacing existing units. Include sets of Samples to show the full range of shape, color, and texture to be expected. For each brick type, provide straps or panels containing at least four bricks. Include multiple straps for brick with a wide range.
2. Each type of patching compound in the form of briquettes, at least 3 inches long by 1-1/2 inches wide. Document each sample with manufacturer and stock number or other information necessary to order additional material.
3. Accessories: Each type of accessory and miscellaneous support.

E. Qualification Data: For brick masonry repair specialist, including field supervisors and workers, and testing service.

F. Preconstruction Test Reports: For existing bricks and mortar and replacement bricks

G. Quality-control program.

1.8 QUALITY ASSURANCE

A. Brick Masonry Repair Specialist Qualifications: Engage an experienced brick masonry repair firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing masonry is insufficient experience for masonry repair work.
1. Field Supervision: Brick masonry repair specialist firm shall maintain experienced full-time supervisors on Project site during times that brick masonry repair work is in progress.

2. Brick Masonry Repair Worker Qualifications: When bricks are being patched, assign at least one worker per crew who is trained and certified by manufacturer of patching compound to apply its products.

B. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage.

C. Mockups: Prepare mockups of brick masonry repair to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.
1. Masonry Repair: Prepare sample areas for each type of masonry repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches in least dimension. Construct sample areas in locations in existing walls where directed by Architect unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
a. Replacement: Four brick units replaced.
b. Patching: Three small holes at least 1 inch in diameter for each type of brick indicated to be patched.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver bricks to Project site strapped together in suitable packs or pallets or in heavy-duty cartons and protected against impact and chipping.

B. Deliver packaged materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.

C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

D. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.

E. Store sand where grading and other required characteristics can be maintained and contamination avoided.

F. Handle bricks to prevent overstressing, chipping, defacement, and other damage.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit brick masonry repair work to be performed according to product manufacturers' written instructions and specified requirements.

B. Temperature Limits: Repair brick masonry only when air temperature is between 40 and 90 deg F and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.

C. Cold-Weather Requirements: Comply with the following procedures for masonry repair unless otherwise indicated:
   1. When air temperature is below 40 deg F, heat mortar ingredients, masonry repair materials, and existing masonry walls to produce temperatures between 40 and 120 deg F.
   2. When mean daily air temperature is below 40 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for seven days after repair.

D. Hot-Weather Requirements: Protect masonry repairs when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F and above unless otherwise indicated.

E. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Source Limitations: Obtain each type of material for repairing brick masonry (brick, cement, sand, etc.) from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 MASONRY MATERIALS

A. Face Brick: As required to complete brick masonry repair work.
   1. Products: Subject to compliance with requirements, provide the following:
   2. Brick Matching Existing: Units with colors, color variation within units, surface texture, size, and shape that match existing brickwork and with physical properties within 10 percent of those determined from preconstruction testing of selected existing units.
      a. Physical Properties: According to ASTM C67/C67M :
      b. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.
   3. Special Shapes:
      a. Provide molded, 100 percent solid shapes for applications where core holes or "frogs" could be exposed to view or weather when in final position and where shapes produced by sawing would result in sawed surfaces being exposed to view.
      b. Mechanical chopping or breaking brick, or bonding pieces of brick together by adhesive, are unacceptable procedures for fabricating special shapes.

B. Concrete Masonry Units:
   1. See Section 042000 - Unit Masonry.

2.3 MORTAR MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I or Type II, except Type III may be used for cold-weather construction; white, gray or both where required for color matching of mortar.
   1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.

B. Hydrated Lime: ASTM C207, Type S.

C. Masonry Cement: ASTM C91/C91M.

D. Mortar Cement: ASTM C1329/C1329M.

E. Mortar Sand: ASTM C144.
   1. Exposed Mortar: Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
   2. Colored Mortar: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.

F. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.

G. Water: Potable.

2.4 MANUFACTURED REPAIR MATERIALS

A. Brick Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching brick masonry.
   1. Use formulation that is vapor and water permeable (equal to or more than the brick), exhibits low shrinkage, has lower modulus of elasticity than bricks being repaired, and develops high bond strength to all types of masonry.
   2. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.
   3. Formulate patching compound in colors and textures to match each brick being patched. Provide sufficient number of colors to enable matching of the color, texture, and variation of each unit.

2.5 ACCESSORY MATERIALS

A. Setting Buttons and Shims: Resilient plastic, nonstaining to masonry, sized to suit joint thicknesses and bed depths of bricks, less the required depth of pointing materials unless removed before pointing.

B. BMasonry Repair Anchors, Spiral Type: Type 304 or Type stainless-steel spiral rods designed to anchor to backing and veneer. Anchors are flexible in plane of veneer but rigid perpendicular to it.
   1. Provide driven-in anchors designed to be installed in drilled and relying on screw effect rather than adhesive to secure backup and veneer.
   2. Products:
      a. BLOK-LOK Limited; Spira-Lok Helical Wall Tie System: www.blok-lok.com.
      b. Heckmann Building Products Inc.; #391 Helix-Tie Spiral Remedial Tie: www.heckmannbuilding
      c. Hohmann & Barnard, Inc.; Spira-Lok Helical Wall Tie System: www.h-b.com.
      d. Substitutions: See Section 016000 - Product Requirements.

C. Masking Tape: Nonstaining, nonabsorbent material; compatible with mortar, joint primers, sealants, and surfaces adjacent to joints; and that easily comes off entirely, including adhesive.

D. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer according to SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.
   1. Surface Preparation: Use coating requiring no better than SSPC-SP 2, "Hand Tool Cleaning", SSPC-SP 3, "Power Tool Cleaning", or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning" surface preparation according to manufacturer's literature or certified statement.
   2. VOC Limit: Use coating with a VOC content of 400 g/L or less.

E. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
   1. Previous effectiveness in performing the work involved.
   2. Minimal possibility of damaging exposed surfaces.
   3. Consistency of each application.
   4. Uniformity of the resulting overall appearance.
   5. Do not use products or tools that could leave residue on surfaces.

2.6 MORTAR MIXES

A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.

B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
   1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.

C. Do not use admixtures in mortar unless otherwise indicated.

D. Mixes: Mix mortar materials in the following proportions:
   1. Rebuilding (Setting) Mortar by Volume: ASTM C270, Proportion Specification, 1 part portland cement, 1 part lime, and 6 parts sand.
   2. Rebuilding (Setting) Mortar by Type: ASTM C270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime, masonry cement, or mortar cement.
   3. Rebuilding (Setting) Mortar by Property: ASTM C270, Property Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime, masonry cement, or mortar cement.
   4. Pigmented, Colored Mortar: Add mortar pigments to produce exposed, setting (rebuilding) mortar of colors required.

PART 1 EXECUTION

3.1 PROTECTION

A. Prevent mortar from staining face of surrounding masonry and other surfaces.

1. Cover sills, ledges, and other projecting items to protect them from mortar droppings.
2. Keep wall area wet below rebuilding and repair work to discourage mortar from adhering.
3. Immediately remove mortar splatters in contact with exposed masonry and other surfaces.

B. Remove gutters and downspouts and associated hardware adjacent to masonry and store during masonry repair. Reinstall when repairs are complete.

3.2 MASONRY REPAIR, GENERAL

A. Appearance Standard: Repaired surfaces are to have a uniform appearance as viewed from 20 feet away by Architect.

3.3 ABANDONED ANCHOR REMOVAL

A. Remove abandoned anchors, brackets, wood nailers, and other extraneous items no longer in use unless indicated to remain.
1. Remove items carefully to avoid spalling or cracking masonry.
2. Notify Architect before proceeding if an item cannot be removed without damaging surrounding masonry. Do the following where directed:
a. Cut or grind off item approximately 3/4 inch beneath surface and core drill a recess of same depth in surrounding masonry as close around item as practical.
b. Immediately paint exposed end of item with two coats of antirust coating, following coating manufacturer's written instructions and without exceeding manufacturer's recommended dry film thickness per coat. Keep paint off sides of recess.
3. Patch hole where each item was removed unless directed to remove and replace bricks.

3.4 BRICK REMOVAL AND REPLACEMENT

A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated or are to be reused. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
1. When removing single bricks, remove material from center of brick and work toward outside edges.

B. Support and protect remaining masonry that surrounds removal area.

C. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

D. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.

E. Remove in an undamaged condition as many whole bricks as possible.
1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
3. Store brick for reuse. Store off ground, on skids, and protected from weather.
4. Deliver cleaned brick not required for reuse to Owner unless otherwise indicated.

F. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for brick replacement.

G. Replace removed damaged brick with other removed brick in good condition, where possible, or with new brick matching existing brick. Do not use broken units unless they can be cut to usable size.

H. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
   1. Maintain joint width for replacement units to match existing joints.

I. Lay replacement brick with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter ends with enough mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C67/C67M initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
   1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
   2. When mortar is hard enough to support units, remove shims and other devices interfering with pointing of joints.

J. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
   1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.5 PAINTING STEEL UNCOVERED DURING THE WORK

A. Notify Architect if steel is exposed during masonry removal. Where Architect determines that steel is structural, or for other reasons cannot be totally removed, prepare and paint it as follows:
   1. Surface Preparation: Remove paint, rust, and other contaminants according to SSPC-SP 2, "Hand Tool Cleaning", SSPC-SP 3, "Power Tool Cleaning", or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning" as applicable to comply with paint manufacturer's recommended preparation.
   2. Antirust Coating: Immediately paint exposed steel with two coats of antirust coating, following coating manufacturer's written instructions and without exceeding manufacturer's recommended rate of application (dry film thickness per coat).

B. If on inspection and rust removal, the thickness of a steel member is found to be reduced from rust by more than 1/16 inch, notify Architect before proceeding.

3.6 REANCHORING VENEERS

A. Install masonry repair anchors in horizontal mortar and according to manufacturer's written instructions. Install at not more than 16 inches o.c. vertically and 16 inches o.c. horizontally unless otherwise indicated. at locations to avoid penetrating flashing.

B. Recess anchors at least 5/8 inch from surface of joint and fill recess with pointing mortar.

3.7 BRICK MASONRY PATCHING

A. Patch the following bricks unless another type of repair or replacement is indicated:
   1. Bricks indicated to be patched.
   2. Bricks with holes.
   3. Bricks with chipped edges or corners. Patch chipped edges or corners measuring more than 3/4 inch in least dimension.
   4. Bricks with small areas of deep deterioration. Patch deep deteriorations measuring more than 3/4 inch in least dimension and more than 1/4 inch deep.

B. Remove and replace existing patches where indicated.

C. Patching Bricks:
   1. Remove loose material from masonry surface. Carefully remove additional material so patch does not have feathered edges but has square or slightly undercut edges on area to be patched and is at least 1/4 inch thick, but not less than recommended in writing by patching compound manufacturer.
   2. Mask adjacent mortar joint or rake out for repointing if patch extends to edge of brick.
   3. Mix patching compound in individual batches to match each unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
   4. Rinse surface to be patched and leave damp, but without standing water.
   5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
   6. Place patching compound in layers as recommended in writing by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches. Roughen surface of each layer to provide a key for next layer.
   7. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of brick. Shape and finish surface before or after curing, as determined by testing, to best match existing brick.
   8. Keep each layer damp for 72 hours or until patching compound has set.
   9. Remove and replace patches with hairline cracks or that show separation from brick at edges, and those that do not match adjoining brick in color or texture.

3.8 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
   1. Do not use metal scrapers or brushes.
   2. Do not use acidic or alkaline cleaners.
   3. Use low-pressure spray appropriate for hardness of brick so as not to damage brick. Follow recommendations of Cleaning Solution Supplier if applicable

B. Clean adjacent nonmasonry surfaces. Use detergent and soft brushes or cloths that will not damage adjacent surfaces.

C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

D. Remove masking materials, leaving no residues that could trap dirt.

3.9 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property.

B. Masonry Waste: Remove masonry waste and legally dispose of off Owner's property.

END OF SECTION 040120.63

SECTION 040120.64 - MASONRY REPOINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Repointing joints with mortar.

B. Repointing joints with sealant.

1.2 RELATED REQUIREMENTS

A. Section 040110 - Masonry Cleaning.

B. Section 040120.63 - Masonry Repair.

1.3 REFERENCE STANDARDS

A. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.

B. ASTM C91/C91M - Standard Specification for Masonry Cement.

C. ASTM C114 - Standard Test Methods for Chemical Analysis of Hydraulic Cement.

D. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.

E. ASTM C150/C150M - Standard Specification for Portland Cement.

F. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.

G. ASTM C270 - Standard Specification for Mortar for Unit Masonry.

H. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete.

I. ASTM C1324 - Standard Test Method for Examination and Analysis of Hardened Masonry Mortar.

J. ASTM C1329/C1329M - Standard Specification for Mortar Cement.

K. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.

1.4 ALLOWANCES

A. Allowances for repointing brick masonry are specified in Section 012100 - Allowances.

B. Preconstruction testing is part of testing and inspecting allowance.

C. Repointing brick masonry is part of masonry repointing allowance.

1.5 UNIT PRICES

A. Work of this Section is affected by unit prices specified in Section 012200 - Unit Prices.
   1. Unit prices apply to authorized work covered by quantity allowances.
   2. Unit prices apply to additions to and deletions from Work as authorized by Change Orders.

1.6 DEFINITIONS

A. Low-Pressure Spray: 100 to 400 psi; 4 to 6 gpm.

1.7 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to repointing brick masonry including, but not limited to, the following:
      a. Verify brick masonry repointing specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
      b. Materials, material application, sequencing, tolerances, and required clearances.
      c. Quality-control program.
      d. Coordination with building occupants.

1.8 SEQUENCING AND SCHEDULING

A. Order sand and gray portland cement for pointing mortar immediately after approval of samples. Take delivery of and store at Project site enough quantity to complete Project.

B. Work Sequence: Perform brick masonry repointing work in the following sequence, which includes work specified in this and other Sections:
   1. Remove plant growth.
   2. Inspect masonry for open mortar joints and permanently or temporarily point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
   3. Remove paint.
   4. Clean masonry.
   5. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
   6. Repair masonry, including replacing existing masonry with new masonry materials.
   7. Rake out mortar from joints to be repointed.
   8. Point mortar and sealant joints.
   9. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
   10. Where water repellents are to be used on or near masonry work, delay application of these chemicals until after pointing and cleaning.

C. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in bricks according to Section 040120.63 - Masonry Repair. Patch holes in mortar joints according to "Repointing" Article.

1.9 SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
   2. Include recommendations for product application and use.
   3. Include test data substantiating that products comply with requirements.

B. Shop Drawings:
   1. Include plans, elevations, sections, and locations of repointing work on the structure.
   2. Show provisions for expansion joints or other sealant joints.
   3. Show locations of scaffolding and points of scaffolding in contact with masonry. Include details of each point of contact or anchorage.

C. Samples for Initial Selection: For the following:
   1. Pointing Mortar: Submit sets of mortar for pointing in the form of sample mortar strips, 6 inches long by 1/4 inch wide, set in aluminum or plastic channels.
      a. Have each set contain a close color range of at least three samples of different mixes of colored sands and cements that produce a mortar matching existing, cleaned mortar when cured and dry.
      b. Submit with precise measurements on ingredients, proportions, gradations, and source of colored sands from which each sample was made.
   2. Sand Type Used for Pointing Mortar: Minimum 8 oz. (240 mL) of each in plastic screw-top jars.
   3. Sealant materials.
   4. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For the following:
   1. Each type, color, and texture of pointing mortar in the form of sample mortar strips, 6 inches long by 1/4 inch wide, set in aluminum or plastic channels.
      a. Include with each Sample a list of ingredients with proportions of each. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.
   2. Sealant materials.
   3. Accessories: Each type of accessory and miscellaneous support.

1.10 INFORMATIONAL SUBMITTALS

A. Qualification Data: For brick masonry repointing specialist.

B. Preconstruction Test Reports: For existing bricks and mortar.

C. Quality-control program.

1.11 QUALITY ASSURANCE

A. Brick Masonry Repointing Specialist Qualifications: Engage an experienced brick masonry repointing firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing masonry is insufficient experience for masonry repointing work.

1. Field Supervision: Brick masonry repointing specialist firms shall maintain experienced full-time supervisors on Project site during times that brick masonry repointing work is in progress.

B. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage.

C. Mockups: Prepare mockups of brick masonry repointing to demonstrate aesthetic effects and to set quality standards for materials and execution.
1. Repointing: Rake out joints in two separate areas, each approximately 36 inches high by 48 inches wide for each type of repointing required, and repoint one of the areas.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.12 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Owner will engage a qualified testing agency to perform preconstruction testing on masonry units as follows:
1. Provide test specimens as indicated and representative of proposed materials and existing construction.
2. Existing Brick: Test each type of existing brick indicated for repointing according to testing methods in ASTM C67/C67M for compressive strength, 24-hour cold-water absorption, five-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove five existing units from locations designated by Architect. Take testing samples from these units.
3. Existing Mortar: Test according to ASTM C1324, modified as agreed by testing service and Architect for Project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, and approximate strength.
4. Temporary Patch: As directed by Architect, provide temporary materials followed by permanent repairs at locations from which existing samples were taken.

1.13 DELIVERY, STORAGE, AND HANDLING

A. Deliver packaged materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.

D. Store sand where grading and other required characteristics can be maintained and contamination avoided.

1.14 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit repointing work to be performed according to product manufacturers' written instructions and specified requirements.

B. Temperature Limits: Repoint mortar joints only when air temperature is between 40 and 90 deg F and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.

C. Cold-Weather Requirements: Comply with the following procedures for mortar-joint pointing unless otherwise indicated:
   1. When air temperature is below 40 deg F, heat mortar ingredients and existing masonry walls to produce temperatures between 40 and 120 deg F.
   2. When mean daily air temperature is below 40 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for seven days after pointing.

D. Hot-Weather Requirements: Protect mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F and above unless otherwise indicated.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Source Limitations: Obtain each type of material for repointing brick masonry (cement, sand, etc.) from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 MORTAR MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I or Type II, except Type III may be used for cold-weather construction; white or gray, or both where required for color matching of mortar.
   1. Provide cement containing not more than 0.60 percent total alkali when tested according to AASTM C114.

B. Hydrated Lime: ASTM C207, Type S.

C. Masonry Cement: ASTM C91/C91M.

D. Mortar Cement: ASTM C1329/C1329M.

E. Mortar Sand: ASTM C144.
   1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
   2. Color: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.

F. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.

G. Water: Potable.

2.3 ACCESSORY MATERIALS

A. Sealant Materials:
   1. Sealant manufacturer's standard elastomeric sealant(s) of base polymer and characteristics indicated below and according to applicable requirements in Section 079200 - Joint Sealants.
      a. Type: Single-component, nonsag urethane sealant.
   2. Colors: Provide colors of exposed sealants to match colors of mortar adjoining installed sealant unless otherwise indicated.
   3. Ground-Mortar Aggregate: Custom crushed and ground pointing mortar sand or existing mortar retrieved from joints. Grind to a particle size that matches the adjacent mortar aggregate and color. Remove all fines passing the No. 100 sieve.

B. Joint-Sealant Backing:
   1. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
   2. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended in writing by sealant manufacturer for preventing sealant from adhering to rigid, inflexible, joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

C. Masking Tape: Nonstaining, nonabsorbent material; compatible with mortar, joint primers, sealants, and surfaces adjacent to joints; and that easily comes off entirely, including adhesive.

D. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
   1. Previous effectiveness in performing the work involved.
   2. Minimal possibility of damaging exposed surfaces.
   3. Consistency of each application.
   4. Uniformity of the resulting overall appearance.
   5. Do not use products or tools that could leave residue on surfaces.

2.4 MORTAR MIXES

A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
   1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again, adding only enough water to produce a damp, unworkable mix that retains its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.

B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
   1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.

C. Do not use admixtures in mortar unless otherwise indicated.

D. Mixes: Mix mortar materials in the following proportions:
   1. Pointing Mortar by Volume: ASTM C270, Proportion Specification, 1 part portland cement, 1 part lime, and 6 parts sand. Add mortar pigments to produce mortar colors required.
   2. Pointing Mortar by Type: ASTM C270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime. Add mortar pigments to produce mortar colors required.
   3. Pointing Mortar by Property: ASTM C270, Property Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime. Add mortar pigments to produce mortar colors required.

PART 3 EXECUTION

3.1 PROTECTION

A. Prevent mortar from staining face of surrounding masonry and other surfaces.
   1. Cover sills, ledges, and other projecting items to protect them from mortar droppings.
   2. Keep wall area wet below pointing work to discourage mortar from adhering.
   3. Immediately remove mortar splatters in contact with exposed masonry and other surfaces.

B. Remove gutters and downspouts and associated hardware adjacent to masonry and store during masonry repointing. Reinstall when repointing is complete.
   1. Provide temporary rain drainage during work to direct water away from building.

3.2 MASONRY REPOINTING, GENERAL

A. Appearance Standard: Repointed surfaces are to have a uniform appearance as viewed from 20 feet away by Architect.

3.3 REPOINTING

A. Rake out and repoint joints to the following extent:
   1. All joints in areas indicated.
   2. Joints indicated as sealant-filled joints.
   3. Joints at locations of the following defects:
      a. Holes and missing mortar.
      b. Cracks that can be penetrated 1/4 inch or more by a knife blade 0.027 inch thick.
      c. Cracks 1/16 inch or more in width and of any depth.
      d. Hollow-sounding joints when tapped by metal object.
      e. Eroded surfaces 1/4 inch or more deep.
      f. Deterioration to point that mortar can be easily removed by hand, without tools.
      g. Joints filled with substances other than mortar.

B. Do not rake out and repoint joints where not required.

C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
   1. Remove mortar from joints to depth of joint width plus 1/8 inch. Do not remove unsound mortar more than 2 inches deep; consult Architect for direction.

2. Remove mortar from brick and other masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
3. Do not spall edges of brick or other masonry units or widen joints. Replace or patch damaged brick or other masonry units as directed by Architect.

D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.

E. Pointing with Mortar:
1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer, and allow it to become thumbprint hard before applying next layer.
3. After deep areas have been filled to same depth as remaining joints, point joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
6. Hairline cracking within mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

F. Pointing with Sealant: Comply with Section 079200 - Joint Sealants and as follows:
1. After raking out, keep joints dry and free of mortar and debris.
2. Clean and prepare joint surfaces. Prime joint surfaces unless sealant manufacturer recommends against priming. Do not allow primer to spill or migrate onto adjoining surfaces.
3. Fill sealant joints with specified joint sealant.
    a. Install cylindrical sealant backing beneath the sealant. Where space is insufficient for cylindrical sealant backing, install bond-breaker tape.
    b. Install sealant using only proven installation techniques that ensure that sealant is deposited in a uniform, continuous ribbon, without gaps or air pockets, and with complete wetting of the joint bond surfaces equally on both sides. Fill joint flush with surrounding masonry and matching the contour of adjoining mortar joints.
    c. Install sealant as recommended in writing by sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
        1) Fill joints to a depth equal to joint width, but not more than 1/2 inch deep or less than 1/4 inch deep.
    d. Tool sealant to form smooth, uniform beads, slightly concave. Remove excess sealant from surfaces adjacent to joint.

e. Sanded Joints: Immediately after first tooling, apply ground-mortar aggregate to sealant, gently pushing aggregate into the surface of sealant. Lightly retool sealant to form smooth, uniform beads, slightly concave. Remove excess sealant and aggregate from surfaces adjacent to joint.

f. Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough textures. Remove excess and spillage of sealant promptly as the work progresses. Clean adjoining surfaces by the means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved mockup.

G. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.4 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
   1. Do not use metal scrapers or brushes.
   2. Do not use acidic or alkaline cleaners.

B. Clean adjacent nonmasonry surfaces. Use detergent and soft brushes or cloths.

C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

D. Remove masking materials, leaving no residues that could trap dirt.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage qualified testing agency to perform tests and inspections. Allow inspectors use of lift devices and scaffolding, as needed, to perform inspections.

B. Architect's Project Representatives: Architect will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.

C. Notify inspectors in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until inspectors have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.

END OF SECTION 040120.64

SECTION 042000 - UNIT MASONRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Concrete block.

B. Mortar and grout.

C. Reinforcement and anchorage.

D. Accessories.

1.2 RELATED REQUIREMENTS

A. Section 042200 Concrete Unit Masonry.

B. Section 055000 - Metal Fabrications: Loose steel lintels.

C. Section 078400 - Firestopping: Firestopping at penetrations of fire-rated masonry and at top of fire-rated walls.

D. Section 079200 - Joint Sealants: Sealing control and expansion joints.

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

B. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

C. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.

D. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement.

E. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.

F. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units.

G. ASTM C140/C140M - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.

H. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.

I. ASTM C150/C150M - Standard Specification for Portland Cement.

J. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.

K. ASTM C270 - Standard Specification for Mortar for Unit Masonry.

L. ASTM C404 - Standard Specification for Aggregates for Masonry Grout.

M. ASTM C476 - Standard Specification for Grout for Masonry.

N. ASTM C780 - Standard Test Methods for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.

O. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures.

P. UL (FRD) - Fire Resistance Directory.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.

C. Shop Drawings: Indicate pertinent dimensions, materials, anchorage, size and type of fasteners, and accessories for brickwork support system.

D. Test Reports: Concrete masonry manufacturer's test reports for units with integral water repellent admixture.

E. Installer's Qualification Statement.

1.6 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

B. Fire Rated Assemblies: Comply with applicable code for UL (FRD) Assembly No. ____.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.7 MOCK-UPS

A. Construct a masonry wall as a mock-up panel sized 8 feet long by 6 feet high; include mortar, accessories, structural backup, and flashings (with lap joint, corner, and end dam) in mock-up.

B. Locate where directed.

C. Mock-up may remain as part of work.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.1 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
   1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
   2. Special Shapes: Provide nonstandard blocks configured for corners.
      a. Provide bullnose units for outside corners.
   3. Load-Bearing Units: ASTM C90, normal weight.
      a. Hollow block, as indicated.
      b. Exposed Faces: Manufacturer's standard color and texture where indicated.

2.2 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I.
   1. Not more than 0.60 percent alkali.

B. Hydrated Lime: ASTM C207, Type S.

C. Mortar Aggregate: ASTM C144.

D. Grout Aggregate: ASTM C404.

E. Water: Clean and potable.

2.3 REINFORCEMENT AND ANCHORAGE

A. Manufacturers:
   1. Blok-Lok Limited: www.blok-lok.com.
   2. Hohmann & Barnard, Inc: www.h-b.com.
   3. WIRE-BOND: www.wirebond.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi), deformed billet bars; galvanized.

C. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated.

D. Single Wythe Joint Reinforcement: ASTM A951/A951M.
   1. Type: Truss or ladder.
   2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
   3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.

E. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not less than 5/8 inch of mortar coverage from masonry face.
   1. Steel frame: Crimped wire anchors for welding to frame, 0.25 inch thick, with trapezoidal wire ties 0.1875 inch thick, hot dip galvanized to ASTM A 153/A 153M, Class B.

F. Metal-to-Metal Fasteners: Self-drilling, self-tapping screws; corrosion resistant finish or hot dip galvanized to ASTM A153/A153M.

2.4 ACCESSORIES

A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.

B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; in maximum lengths available.

C. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.5 MORTAR AND GROUT MIXING

A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
   1. Masonry below grade and in contact with earth: Type S.
   2. Exterior, loadbearing masonry: Type S.
   3. Interior, loadbearing masonry: Type S.

B. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

C. Mixing: Use mechanical batch mixer and comply with referenced standards.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.3 COLD AND HOT WEATHER REQUIREMENTS

A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.

B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

3.4 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
   1. Bond: Running.
   2. Coursing: One unit and one mortar joint to equal 8 inches.
   3. Mortar Joints: Concave.

3.5 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

D. Remove excess mortar and mortar smears as work progresses.

E. Interlock intersections and external corners.

F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

H. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.

I. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.

J. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.6 REINFORCEMENT AND ANCHORAGE - GENERAL AND SINGLE WYTHE MASONRY

A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Embed longitudinal wires of joint reinforcement in mortar joint with at least 5/8 inch mortar cover on each side.

E. Lap joint reinforcement ends minimum 6 inches.

F. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches horizontally and 24 inches vertically.

G. Embed ties and anchors in mortar joint and extend into masonry unit a minimum of 1-1/2 inches with at least 5/8 inch mortar cover to the outside face of the anchor.

3.7 LINTELS

A. Install loose steel lintels over openings.

B. Maintain minimum 8 inch bearing on each side of opening.

3.8 GROUTED COMPONENTS

A. Lap splices minimum 24 bar diameters.

B. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.

C. Place and consolidate grout fill without displacing reinforcing.

D. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

3.9 CONTROL AND EXPANSION JOINTS

A. Do not continue horizontal joint reinforcement through control or expansion joints.

B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

C. Size control joints as indicated on drawings; if not indicated, 3/8 inch wide and deep.

D. Form expansion joint as detailed on drawings.

3.10 BUILT-IN WORK

A. As work progresses, install built-in metal door frames and other items to be built into the work and furnished under other sections.

B. Install built-in items plumb, level, and true to line.

C. Bed anchors of metal door frames in adjacent mortar joints. Fill frame voids solid with grout.
   1. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.

D. Do not build into masonry construction organic materials that are subject to deterioration.

3.11 TOLERANCES

A. Install masonry within the site tolerances found in TMS 402/602.

B. Maximum Variation from Alignment of Columns: 1/4 inch.

C. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.

D. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.

E. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.

F. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.

G. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch.

H. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.12 CUTTING AND FITTING

A. Cut and fit for chases. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.13 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for compliance with requirements of this specification.

C. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.14 CLEANING

A. Remove excess mortar and mortar droppings.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution.

D. Use non-metallic tools in cleaning operations.

3.15 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION 042000

SECTION 042200 - CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Provide the following:

1. Concrete masonry units.
   a. Standard
   b. Fire-rated
   c. Split face
2. Ground face concrete masonry units.
3. Masonry lintels and setting of steel angles furnished under Section 05 50 00.
4. Setting bearing plates supported and embedded with masonry furnished under Section 05 50 00.
5. Provide masonry fill concrete and reinforcing steel where indicated on drawings. See Section 03 30 00.
6. Wall reinforcing and accessories.
7. Built-in collars, sleeves, inserts, anchors, ties, sockets, bolts, blocking, miscellaneous metal work, etc., in contact with, supported on or enclosed by masonry. When these items are furnished by others, they shall include information for setting.
8. Through-wall flashing.
9. Includes grouting solid all hollow metal door frames in masonry.
10. Mortar and grout.

1.2 RELATED DOCUMENTS

A. Section 04 20 01 Masonry Veneer

B. Section 04 05 11 Mortar and Masonry Grout

C. Section 01 81 13 Sustainable Design Requirements

1.3 DEFINITIONS

A. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

B. CMU(s): Concrete masonry unit(s).

1.4 PERFORMANCE REQUIREMENTS

A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.
   1. Determine net-area compressive strength of masonry from average net-area compressive strength of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

1.5 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Owner will engage a qualified independent testing agency to preform preconstruction testing indicated below. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
   1. Prism Test: For each type of construction required, according to ASTM C 1314.

1.6 SUBMITTALS

A. Product Data: For each different masonry unit, accessory and other manufactured products specified.

B. Shop Drawings: Show fabrication and installation details for the following:
   1. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement". Show elevations of reinforced walls.
   2. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.
   3. Masonry Units: Show size, profiles, coursing, and location of special shapes.

C. Samples: Provide samples of items specified herein to be used in the work.

D. Submit certification that fire-resistant concrete units conform to the requirements specified herein for Fire Resistant Concrete Block.

E. Material Test Reports: From a qualified testing agency indicating and interpreting test results of the following for compliance with requirements indicated.
   1. Each type of masonry unit is required.
      a. Include size-variation data for brick, verifying that actual range of sizes falls within specified tolerances.
      b. Include test results, measurements, and calculations establishing net-area compressive strength of masonry units.
   2. Mortar complying with property requirements of ASTM C270.
   3. Grout mixes complying with compressive strength requirements of ASTM C476. Include description of type and proportions of grout ingredients.

F. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
   1. Each type of masonry unit required.
      a. Include test data, measurements, and calculations establishing net-area compressive strength of masonry units.
   2. Each combination of masonry unit type and mortar type. Include statement of net-area compressive strength of masonry units, mortar type, and net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.
   3. Each material and grade indicated for reinforcing bars.
   4. Each type and size of joint reinforcement.
   5. Each type and size of anchor, tie, and metal accessory.
   6. Cementitious materials: Include brand, type, and manufacturer.
   7. Pre-blended, dry mortar mixes: Include description of type and proportions of ingredients.

8. Grout mixes: Include description of type and proportions of ingredients.

G. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
   1. Include test reports for mortar mixes required to comply with property specifications. Test according to ASTM C 1019 for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.
   2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

H. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 of ACI 530.1/ASCE 6/TMS 602.

I. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials and equipment to be used to comply with cold-weather requirements.

1.7 QUALITY ASSURANCE

A. Supervisor: A supervisory journeyman mason shall be appointed for the project and shall be present at all times masonry work is being performed and:
   1. have a minimum of 5 years experience on masonry projects of this type and size.
   2. be thoroughly familiar with the design requirements, types of materials being installed, referenced standards and other requirements.

B. Use only skilled journeyman masons for cutting and placing of masonry; no allowance shall be made for lack of skill on the part of the workmen.

C. Consult other trades and make provisions that shall permit the installation of their work in a manner to avoid cutting and patching. Build-in work under other sections, as necessary, and as the work progresses.

D. Unit Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602, 1999 Edition “Specifications for Masonry Structures”. Maintain one copy of the standard in project field office at all times during construction. Contractor’s supervisory personnel shall be thoroughly familiar with the material as it applies to this Project.

E. Concrete Unit Masonry Construction: Comply with the National Concrete Masonry Association (NCMA) “TEK Bulletins”, and other requirements specified.
   1. NCMA TEK Bulletin 3-02A “Grouting for Concrete Masonry Walls”.
   2. NCMA TEK Bulletin 8-02A “Removal of Stains from Concrete Masonry Walls”.
   3. NCMA TEK Bulletin 10-01A “Crack Control in Concrete Masonry Walls”.
   4. NCMA TEK Bulletin 10-02C “Control Joints for Concrete Masonry Walls”.
   5. NCMA TEK Bulletin 14-2 “Reinforced Concrete Masonry”.
   6. NCMA TEK Bulletin 19-04A “Flashing Concrete Masonry”.
   7. NCMA TEK Bulletin 19-05A “Use of Flashing in Concrete Masonry Walls”.

F. Sample Panels

1. Construct where approved by Architect.
2. Panel shall be at least 6 feet long by 6 feet high and shall show full color range, joint detail, reinforcement, through-wall flashing and drips, cavity drainage material, weeps and all other details of construction that will be used in the completed work. Include at least one 90° corner.
   a. Include, split face concrete masonry and ground face accent band;
   b. Separate interior sample panels may be required by Architect. These sample panels may be a portion of the final wall and if accepted can remain in place.
   c. Clean sample panel using the same methods and materials that will be utilized for cleaning the building masonry.
3. Construct additional panels as required by Architect if original panel construction is not acceptable.
4. Do not start masonry construction until the sample panel is approved by the Architect.
5. Retain acceptable sample as reference standard for the project.
6. Demolish and remove panel from site after acceptance of work.

G. Source Limitations of Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single course from single manufacturer for each product required.

H. Source Limitations of Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single course of producer for each aggregate.

I. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 620 unless modified by requirements in the Contract Documents.

1.8 DELIVERY, STORAGE AND HANDLING

A. Store cement and lime materials and masonry units off the ground, under cover and protected from weather damage. If units become wet, do not install until they are dry. Do not use cementitious materials that have become damp.

B. Stockpile and store aggregates to prevent contamination from foreign materials, in locations where grading and other required characteristics can be maintained.

C. Use care in handling units to avoid chipping and breakage.

D. Locate storage areas where they will not be disturbed or damaged by construction operations.

E. Protect finished floor areas from damage.

F. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in covered weatherproof dispensing silos.

G. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.9 COLD WEATHER CONSTRUCTION

A. Comply with recommended practices for cold weather construction of the International Masonry Industry All-Weather Council and requirements contained in ACI 530.1/ASCE 6/TMS 602.

B. Do not build on frozen or snow covered work. Remove and replace masonry work damaged by frost or freezing.

C. Requirements During Construction: Provide the following minimum requirements for the air temperatures listed:
   1. Above 40° F: Normal masonry procedures.
   2. 40° F to 32° F: Heat mixing water to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Do not heat mortar to greater than 120° F.
   3. Below 32° F to 25° F: Heat sufficient mortar ingredients to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Maintain mortar temperatures after mixing above 40° F. Do not heat mortar to greater than 120° F.
   4. Below 25° F to 20° F: Heat sufficient mortar ingredients to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Maintain mortar temperatures after mixing above 40° F. Do not heat mortar to greater than 120° F. Maintain masonry above freezing using auxiliary heat. Provide enclosure when wind is in excess of 15 mph.
   5. Below 20° F: Heat sufficient mortar ingredients to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Maintain mortar temperatures after mixing above 40° F. Do not heat mortar to greater than 120° F. Maintain masonry above freezing using enclosure and auxiliary heat.

D. Protection Requirements for Completed Masonry (and masonry not being worked on): Provide the following minimum requirements for the mean daily air temperatures listed:
   1. Above 40° F: Normal masonry procedures.
   2. 40° F to 32° F: Protect from rain or snow for 24 hours with weather-resistive membrane.
   3. Below 32° F to 20° F: Completely cover with weather-resistive membrane and maintain above freezing for 24 hours.
   4. Below 20° F: Provide weather-resistant enclosure and auxiliary heat to maintain above freezing for 24 hours.

E. Requirements During Grouting Operations (Vertically Reinforced Walls): Provide the following minimum requirements for the air temperatures listed:
   1. Above 32° F: Normal masonry procedures. Cover at end of work day with weather-resistive membrane.
   2. 32° F to 20° F: Heat grout materials to 90° F so grout has in-place temperature of 70° F at end of work day. Cover at end of work day with weather-resistive membrane and 1/2" thick insulating blanket.
   3. Below 20° F: Heat grout materials to 90° F so grout has in-place temperature of 70° F at end of work day. Cover at end of work day with weather-resistive membrane and 1" thick insulating blanket or maintain heated enclosure to 40° F for a period of 48 hours.
      a. Grout Containing Type III Cement: Maintain 40° F temperature for 24 hours.

1.10 HOT WEATHER CONSTRUCTION

A. Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 620.

B. Protect masonry construction from direct exposure to wind and sun when erected in an ambient air temperature of 90º F., or greater in shade with relative humidity less than 50%. Provide artificial shade and wind breaks and use cooled materials as required. Provide artificial shade, wind breaks, use cooled materials and other procedures outlined in BIA Tech Notes #1.

1.11 PROJECT CONDITIONS

A. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.
   1. Brace unsupported and newly laid masonry walls. Maintain bracing in place until building structure provides permanent bracing.

B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar and soil that become in contact with such masonry.
   1. Protect base of walls from rain-splashed mud and from mortar splatter by coverings spread on ground and over wall surface.
   2. Protect sills, ledges and projections from mortar droppings.
   3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
   4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt on completed masonry.

C. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

PART 2 - PRODUCTS

2.1 CONCRETE MASONRY UNITS

A. General
   1. Curing: Cure for at least 7 days and units must be at least 28 days old when used in the work.
   2. Corners (Interior Walls): Provide bullnose edges at all outside corners unless otherwise indicated or directed.
   3. Integral Water Repellents: Use in units exposed to weather. Amount as recommended by water repellent manufacturer as approved by concrete block manufacturer.
      a. Type: Liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength. Units made with integral water repellent, when tested according to ASTM E 514 as a wall assembly made with mortar containing integral water-repellent manufacturer's mortar additive, with test period extended to 24 hours, shall show no visible water or leaks on the back of test specimen.
      b. Products/Manufacturers: Subject to compliance with requirements, provide W. R. GRACE Dry-Block; MASTER BUILDERS' INC. Rheomix-Rheopel; ACME-

HARDESTY CO. Acme-Shield; KRETE INDUSTRIES KreteControl 202 Internal Water Repellent.

4. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
   a. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
   b. Special corner unit shall be provided to insure the proper placement of the horizontal joint corner reinforcing and bond bean corner reinforcing bars.

B. Hollow Load Bearing, Solid Load Bearing (75%) and Fire Resistant Concrete Masonry Units
1. Type: Hollow, load bearing, standard modular size and shapes, thoroughly cured and dried.
2. References: ASTM C90.
3. Compressive Strength: Provide masonry units with minimum average net-area compressive strength of 3,750 psi. Function of masonry units with mortar and grout shall have a net-area compressive strength of 2,500 psi. Reference Table 2 of ACI 530.1.
4. Weight Classification: Normal weight, unless otherwise indicated.
5. Linear Shrinkage: Not to exceed 0.065 percent, ASTM C426.
6. Aggregate: ASTM C33 normal weight aggregates. Cinder aggregates not permitted.
7. Fire Resistant
   a. Rating: Design for fire ratings indicated on drawings.
   b. Manufacturer
      1) Listed in the Building Materials List published by the Underwriters' Laboratories, Inc.
      2) In lieu of above, provide a report from a nationally recognized testing agency stating that the units are equivalent in fire rating to those furnished by the producers as listed above.
   c. Location: Where indicated.

2.2 MORTAR

A. Materials
1. Portland Cement: ASTM C150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated or selected.
2. Masonry Cement: ASTM C91, provide non-staining type for stonework.
3. Portland Cement-Lime Mix: Packaged blend of Portland cement and hydrated lime containing no other ingredients. Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
4. Hydrated Lime: ASTM C207, Type S.
5. Aggregate for Mortar: ASTM C144, clean masonry sand, not over 10% to pass No. 100 sieve for general use.
6. Aggregate for Grout: ASTM C 404.
7. Water: Clean, fresh and free of deleterious amounts of acids, alkalis and foreign organic matter.
8. Water Repellent Admixture: W. R. GRACE Dry-Block, RHEOMIX - Rheopel Mortar Admixture; MASTER BUILDERS, INC., KRETE INDUSTRIES KreteGuard 390. Manufacturer must submit certification that water repellent admixture meets or exceeds requirements specified herein.

a. Conformance: ASTM E514.
b. Type: Integral polymeric water-repellents (IPWR).

9. Color Additive: Inorganic pigments as required to produce colored mortar as selected by Architect. SGS Colors by SOLOMON GRIND CHEM SERVICE; DAVIS COLORS or equal.
   a. Resistant to alkali, light and weather
   b. Unaffected by cement and free of water soluble salts.
10. Cold Weather Additive: Non-chloride, non-corrosive, accelerating admixture complying with ASTM C494, Type C or ASTM C1384 and recommended by the manufacturer for use in masonry mortar of composition indicated.

B. Proprietary Mortar Cement: Conform to ASTM C91, containing hydrated lime.
   1. Certification: Submit certified laboratory data substantiating conformance with structural requirements for mortars as specified; and that no adverse chemical reaction will occur with the specified masonry accessories and reinforcing. Certification must be received and approved by Architect prior to mortar use.
   2. Suitable products are acceptable from the following manufacturers:
      a. Cemex (Richcolor)
      b. Lehigh Hanson
      c. Essroc Materials, Inc. (Brixment)
      d. Quikrete

C. Mixes - Unit Masonry
   1. Provide water repellent admixture in all mortar used for exterior CMU masonry work. Add to mix in accordance with manufacturer's recommendations.
   2. Type M Mortar
      a. Use: Provide for CMU work below grade or in contact with earth.
      b. Proportions: ASTM C270 proportions by volume. Minimum average compressive strength at 28 days of 2,500 psi.
      c. Color: Natural color.
   3. Type S Mortar
      a. Use: Provide for all CMU work, except that indicated to receive.
      b. Proportions: ASTM C270 proportions by volume. Minimum average compressive strength at 28 days of 1,800 psi.
      c. Colors
         1) Concealed work and natural colored concrete masonry units: Natural color.
         2) Colored concrete masonry units: As selected by Architect.
   4. Type N Mortar
      a. Use: Provide for brick veneer
      b. Proportions: ASTM C270 proportions by volume. Minimum average compressive strength at 28 days of 750 psi.
      c. Colors: To Match Existing

D. Mix - Cut Stone: One part non-staining masonry cement, one part hydrated lime, and six parts damp, loose sand.

2.3 GROUT

A. Grout for Unit Masonry: Comply with ASTM C476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/ TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 3,000 PSI for all locations of grout.
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143.
4. Hand Mixing: Not acceptable.

2.4 REINFORCING

A. Manufacturers: DUR-O-WALL; HECKMANN BUILDING PRODUCTS; HOHMANN & BARNARD; MASONRY REINFORCING CORPORATION OF AMERICA. Where products are specified referencing a particular manufacturer, equal products from the manufacturers listed are acceptable providing the product meets the requirements indicated.
   1. Where a manufacturer is listed below for a specific product, it is to establish a level of quality. Similar products of equal quality from the above listed manufacturers are acceptable.

B. Horizontal Joint Reinforcement
   1. General
      a. Type: Ladder type, standard weight, galvanized.
      b. Width: Approximately 2 in. less than nominal wall thickness.
      c. Spacing: Continuous along horizontal joint, spaced 16 inches on center vertically, unless otherwise indicated.
      d. Provided in lengths of no less than 10 feet, with prefabricated corner and tee units.
   2. Longitudinal Wire
      a. Single Wythe Walls: 2 wires.
      b. Multi-wythe Walls:
         1) Each wythe less than 6 inches wide: 1 wire.
         2) Each wythe 6 inches and wider: 2 wires.

C. Metal "Z" Ties: 3/16" galvanized steel "Z" shaped wire ties, 2" narrower than wall width. For use in block wythes at control joints.

D. Wire Mesh: 1/4" mesh of galvanized steel wire (min. 16 gage) or galvanized metal lath, cut into strips 1-1/2" narrower than wall width where used. For use at intersection of masonry walls.

E. Reinforcing Steel - Bond Beam and Wall Reinforcement: Uncoated steel reinforcing bars; ASTM A615/A; ASTM A616, including Supplement 1; or ASTM A617/A, Grade 60.

F. Partition Top Anchors: 12 gage galvanized steel plate with 7/16-inch diameter holes. HOHMANN & BARNARD PTA 422 or equal.

2.5 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
   1. Mill-Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 641/A 641M, Class 1 coating.

2. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A1064/A1064M; with ASTM A 153/A 153M, Class B-2 coating.
3. Galvanized Steel Sheet: ASTM A 653/A 653M, Commercial Steel, G60 zinc coating.
4. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Adjustable Anchors for Connection to Structural Steel Framing: Provide anchros that allow vertical or horixontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Anchor Section for Welding to Steel Frame: Crimped ¼-inch diameter wire. Mill-galvanized wire may be used at interior walls unless otherwise indicated.
2. Tie Section: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.187-inch diameter wire. Mill-galvanized wire may be used at interior walls, unless otherwise indicated.

C. Partition Top Anchors: 0.105-inch thick metal plate with 3/8-inch diameter metal rod 6 inches long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dipped galvanized after fabrication.

D. Rigid Anchors: Fabricate from steel bars 1-1/2 inches wide by ¼ inch thick by 24 inches long, with ends turned up 2 inches or with cross pins unless otherwise indicated

2.6 MISCELLANEOUS ITEMS

A. Through-Wall Flashing: Provide one of the following types:
1. Copper Composite
a. Characteristics:
1) Type: Copper core with polymer fabric laminated to copper face on both sides with non-asphalt adhesive.
2) Copper: ASTM B370, CDA Alloy 110
3) Weight: 5 oz
4) Fabric: polymer fabric; laminated both faces of copper core.

b. Mastic/sealant: One part 100% solids, solvent-free formulated silyl-terminated polyether (STPE), ASTM C920, Type S, Grade NS, Class 50.
c. Termination Strip: Provide type recommended by flashing manufacturer.
d. Manufacturers/Products
1) YORK MANUFACTURING, INC.; Multi-Flash
2) STS COATINGS, INC.; Gorilla Flash GF-500
3) WIRE-BOND, INC.; Copper Seal

2. Rubber Sheet
a. Material: Self-adhesive, cold-applied sheet consisting of 32 mil rubberized asphalt bonded to 8 mil polyethylene film. Provide with release film.
b. Mastic: Rubberized asphalt-based mastic.
c. Surface Primer (Conditioner): Type as recommended by manufacturer.
d. Manufacturer: Perm-A-Barrier by W. R. GRACE, Sando-Seal by SANDELL MANUFACTURING COMPANY, IPCO Wall Flashing; ILLINOIS PRODUCTS CORPORATION, CCW 705 TWF; CARLISLE COATINGS AND WATERPROOFING, POLYGUARD 400 TWF.

B. Sheet Metal Drip Edge: Fabricated from 0.015" thick by minimum 3" wide stainless steel with hemmed edge. Comply with requirements specified in Section 07 62 00 - Flashing and Sheet Metal.
   1. Product: HECKMAN BUILDING PRODUCTS, IPCO stainless steel drip edge, ILLINOIS PRODUCTS CORPORATION or HOHMANN & BARNARD, INC.

C. Preformed Masonry Control Joint Filler
   1. General: Extruded rubber complying with ASTM D2240, general purpose grade.
   2. Flange: Where applicable, locate as required for the particular joint configuration.
   3. Manufacturer: Rapid Regular Control Joint by DUR-O-WALL; HOHMANN & BARNARD, or equal.

D. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells with loops for holding reinforcing bars in center of cells. Units are formed from 0.142" steel wire, hot-dipped galvanized after fabrication.
   1. D/A 811 DUR-O-WALL
   2. D/A 816 DUR-O-WALL
   3. No. 376 Rebar Positioner HECKMAN
   4. #RB Rebar Positioner HOHMANN & BARNARD
   5. #RB-Twin Rebar Positioner HOHMANN & BARNARD
   6. Double O-Ring Rebar Positioner MASONRY REINFORCING CORPORATION OF AMERICA
   7. O-Ring Rebar Positioner MASONRY REINFORCING CORPORATION OF AMERICA

E. Adhesive Anchor Bolts
   1. Load Capacity: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
   2. Material for Interior Locations: Carbon-setel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 unless otherwise indicated.
   3. Material for Exterior Locations and Where Stainless Steel is indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.
   4. Provide screen tubes for use in hollow core masonry units. Screen tubes shall be designed for specific adhesive types, anchor rod material and as per manufacturer requirements.

PART 3 - **EXECUTIONS**

3.1 INSPECTION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of Work.
   1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
   2. Verify that foundations are within tolerances specified.
   3. Verify that reinforcing dowels are properly installed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Brick
1. Wet brick having ASTM C67 absorption rates greater than 0.025 oz. per square inch per minute. Use wetting methods which ensure that each masonry unit is nearly saturated, but surface dry when laid. During freezing weather, comply with the recommendations of BIA.
2. Except for absorbent units specified to be wetted, lay masonry units dry.

B. Concrete Masonry Units: Lay masonry units dry. Do not wet concrete masonry units.

C. Establish lines, levels, and coursing.

D. Coordination: Identify items that are to be built-in to masonry wall as specified in other section of these specifications. Verify that these items are available prior to commencing masonry work in these areas. Coordinate sizes of required openings. Items include, but are not necessarily limited too:
1. Access doors
2. Recessed fire extinguisher cabinets
3. Recessed toilet accessories

3.3 INSTALLATION - GENERAL

A. Build walls to the full thickness shown. Build single wythe walls to the actual thickness of the masonry units, using units of nominal thickness shown or specified.

B. Cut masonry units using motor-driven masonry saws to provide clean, sharp, unchipped edges. Cut units as required to provide pattern shown and to fit adjoining work neatly. Use full-size units without cutting wherever possible. Provide 100% solid units where webs would be exposed.

C. Construction Tolerance: Comply with tolerances in ACI 530.1/ASCE 6/TMS 602 and the following:
1. Dimensions and Locations of Elements:
    a. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
    b. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
    c. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.
2. Lines and Levels:
    a. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
    b. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
    c. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
3. Joints:

a. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
b. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.

D. Openings: Form all chases and openings required for piping and other trades. After work is completed, close openings with masonry and seal around penetration. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

E. Seal all anchor penetrations and tears in the vapor barrier as a result of the work installed under this section.

3.4 ERECTION

A. Masonry
1. Layout walls in advance for accurate spacing of surface bond patterns, with uniform joint widths, and to properly locate returns and offsets. Avoid the use of less than half-size units at corners, jambs and other locations.
2. Lay up walls plumb and true to comply with specified tolerance. Provide courses level, accurately spaced and coordinated with other work.
3. Pattern Bond: Lay exposed masonry in running bond with vertical joint in each course centered on units in courses above and below. Bond and interlock each course of each wythe at corners. Do not use units with less than 4" of horizontal face dimensions at corners.
4. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and slabs. Maintain 3/8" joint widths, except for minor variations required to maintain bond alignment.
5. Joints
a. Exposed: Cut flush and finish (tool) with hardened metal tool to form a concave compressed joint. Same methods and types of tools to be used by all masons working on project.
b. Concealed: Cut flush and trowel point.
6. Compress and cut joints flush for masonry foundation walls.

B. Horizontal Wall Reinforcement: Provide continuous masonry joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
1. Space reinforcement not more than 16 inches o.c.
2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.
a. Reinforcement above is in addition to continuous reinforcement.
4. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
5. Provide continuity at corners and wall intersections by using prefabricated "L" and "T" sections. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

6. Provide additional reinforcement continuous in first joint above openings and in first joint below openings not extending to floor. Extend additional reinforcement a minimum of 4'-0" beyond opening.
7. All bars shall be cold bent.

C. Door Frames: Fill all frames installed in masonry with mortar.

D. Bearing Points: Where a lintel, bar joist or similar member bears directly on concrete masonry, fill the cores of the two blocks courses directly under the member with grout to a limit of 16 inches beyond the end of the member. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and other similar items, unless indicated otherwise.

E. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.

F. Control and Expansion Joints: Provide control joints for exterior and interior masonry construction in accordance with NCMA-TEK Bulletins 10-1A and 10-2B and BIA Technical Notes 18B.
1. Unless otherwise indicated, provide control joints in masonry walls at maximum 24 foot intervals for exterior walls, maximum 30 foot intervals for interior walls, and at intersections of walls, except corners.
   a. Exact locations as determined by the Architect if not specifically dimensioned.
   b. If drawings do not indicate all control joints based on these maximums, allow for additional joints to be determined by the Architect prior to commencement of masonry work.
   c. Locate control at steel columns.
2. Provide 3/8" wide control joints, unless otherwise indicated. For joints in exterior walls, build in control joint filler strips as masonry wall is laid up allowing 3/4" for sealant and backup on each side of wall. For interior control joints, no filler is required; rake joint approximately 3/4" deep and install sealant and backup. See Section 07 92 00, Sealants.
3. Do not carry horizontal joint reinforcement through control joint.
4. Maintain lateral support of continuous wall at control joint in concrete block backup walls by using control joint filler, tongue and groove type control joint block, or similar type approved method. In cavity walls, place metal “Z” wall ties 16" on-center vertically in brick on each side of control joint.
5. Maintain lateral support of intersecting interior masonry walls with wire mesh ties placed across joint between walls, spaced 16" on-center vertically.

G. Thru-Wall Flashing
1. Provide at the following locations:
   a. In first course above steel supports and shelf angles.
   b. In first course above lintels at louvers, windows and doors.
   c. In first course above grade around entire building perimeter.
   d. In exterior walls that project above adjacent lower roof.
   e. Below sills of window, louver and similar type wall openings.
   f. Below parapet wall caps.
   g. Other through wall flashing conditions where indicated.
2. Ensure that flashings drain to exterior.
3. Prepare masonry surfaces smooth and free of projections which could puncture flashing.
4. Lay on slurry of fresh mortar and cover with mortar.

5. End Dams: Provide end dams at all locations where flashing terminates within a wall. Over openings, carry minimum 6" beyond end of steel lintel and turn up edges to form pan. All corners folded, not cut.
6. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal drip edge.
7. Top Edge Concealed Terminations: 8 inch minimum above drainage plane.
8. Seal around all penetrations with mastic before covering with mortar.
9. Joints
    a. Install in longest lengths and with fewest joints possible but not less than 20 feet between joints.
    b. Lap ends minimum 6 inches and seal with full bed of mastic.
10. Continue flashings around corners and other gaps in shelf angles to prevent discontinuity.
11. Continue flashing through expansion joints.
12. Provide weeps at all thru-wall flashing locations. Space weeps as specified hereinbefore.

H. Build non-load bearing interior partitions full height of story to underside of solid floor or roof structure above unless otherwise indicated.
1. Install compressible filler in joint between top of partition and underside of structure above.
2. At fire-rated partitions, install firestopping in joint between top of partition and underside of structure above to comply with Section 07 84 00, Firestopping.
3. Fasten partition top anchors to structure above and build into top fo partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide ½-inch clearance between end of anchor rob and end of tube. Spae anchros 48 inches on center unless otherwise indicated.
4. Wedge non-load bearing partition against structure above with small pieces of tile/ slate or metal. Fill joint with mortar after dead load deflection of structure above approaches final position.

I. Stopping and Resuming Work: In each course, rack back one-half-unit length for one-half running bond or one-third-unit length for one-third running bond; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry units lightly if required, and remove loose masonry units and mortar before laying fresh masonry.

J. Built-in Work: As construction progresses, build in items specified under this and other Sections of the Specifications. Fill in solidly with masonry around built-in items.

K. Steel Lintels: Install steel lintels at all masonry opening, whether indicated on the drawings or not. Provide minimum bearing of 8” an each jamb, unless otherwise indicated.

L. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

3.5 MORTAR

A. General
1. Batch Size: Controlled so that all material used within two (2) hours.
2. Mortar on Board
    a. Keep well tempered with water so long as its cementing material has not started to set.
    b. Do not retemper if initial set of cementing material has been reached, or if mortar has

stiffened greatly.

3. Anti-freeze Admixture: Not permitted.
4. Water Repellent Admixture: Use with brick and concrete block exposed to exterior, mix as recommended by manufacturer.

B. Mixing
1. Machine mix dry in a batch mixer with care taken in adding water to mix to avoid overwetting.
2. Do not retamper in mixer at any time.
3. Continue mixing for a minimum of five (5) minutes after all materials are in mixer.

C. Recharging: Completely empty and clean mixer before recharging.

3.6 PROTECTION

A. Brace all walls while in green condition.

B. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.

3.7 REINFORCED MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shoes as needed to support reinforced masonry elements during construction.
1. Construct formwork to provide shape, line and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements of ACI 530.1/ASCE 6/TMS 602.
1. General: Clean reinforcement of loose rust, mill scale, earth, ice or other materials which will reduce bond to mortar or grout. Do not use reinforcement bars with kinks or bends not shown on drawings or final shop drawings, or bars with reduced cross-section due to excessive rusting or other causes.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.
1. Comply with requirements of ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Use "Fine Grout" per ASTM C 476 for filling spaces less than 4" in one or both horizontal directions.
3. Use "Coarse Grout" per ASTM C 476 for filling spaces 4" to 10" in both horizontal directions.

4. Use 3,000 psi concrete for filling spaces 10" or larger in both horizontal directions.

D. Bond Beams: Reinforce as indicated and fill with grout. Position reinforcement accurately at the spacing indicated. Place horizontal reinforcement as the masonry work progresses. Bond beams shall continue around corners with corner bar reinforcing as indicated on contract documents.

E. Reinforced Concrete Masonry Walls: Install and align grout block units to provide continuous vertical voids in walls. Install reinforcing steel as work progresses. Use horizontal bars to position vertical bars. Fill grout block units cores solid with concrete fill.
1. Place concrete fill in maximum 4'-0" vertical lifts. Recess top of fill minimum 1-1/2" below top of course to form a key with the following lift. Comply with NCMA TEK Bulletins 3-2, 3-3A and 14-2 recommendations.
2. Coordinate placement of reinforcement and concrete fill with cast-in-place concrete and precast concrete work to provide continuous vertical and horizontal reinforcement full height of indicated walls.

3.8 ANCHORING MASONRY TO STRUCTRUAL STEEL AND CONCRETE

A. Anchor masonry to structural steel and concrete where masonry abuts or faces structural steel or concrete to comply with the following:
1. Provide an open space no less than ½ inch wide between masonry and structural steel and concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches on center vertically and 36 inches on center horizontally.

3.9 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified independent testing agency to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to meet specified requirements shall be done at Contractor's expense.

B. Inspections: Level B Quality Assurance in according with the International Building Code and TMS 402.
1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: Tests and Evaluations listed in this Article will be performed during construction for each 5000 sq. ft. of wall area or portion thereof.

E. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C780.

F. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar air content and compressive strength.

G. Grout will be sampled and tested for compressive strength per ASTM C1019.

H. Concrete Masonry Unit Tests: For each type of concrete masonry unit indicated, units will be tested according to ASTM C140.

I. Prism-Test Method: For each type of wall construction indicated, masonry prisms will be tested per ASTM C1314, and as follows:
   1. Prepare 1 set of prisms for testing at 7 days and 1 set for testing at 28 days.

3.10 REPAIR, POINTING AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged. Provide new units to match adjoining units and install in fresh mortar pointed to eliminate evidence of replacement.

B. During the tooling of joints, enlarge all voids or holes, and completely fill with mortar. Point up all joints at corners to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. Cleaning – Concrete Masonry: During construction of exposed CMU, minimize mortar and grout smears on exposed surfaces. Dry brush CMU surfaces at the end of each days work and after final pointing. Remove mortar stains and dirt from exposed surfaces.
   1. Cleaning Solutions: Where cleaning solutions are required, they shall be provided at no additional cost to the Owner. Cleaning solutions must be approved by Architect and spot tested prior to use.

D. Area Cleaning: Clean floors of all mortar droppings, including floor surfaces of accessible chases.

END OF SECTION 042200

SECTION 05 12 00 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Structural steel.
   2. Grout.

B. Related Sections:
   1. Section 03100 “Concrete Formwork” for leveling plates and embedded items.
   2. Section 05 31 00 "Steel Decking" for field installation of shear connectors through deck.
   3. Section 05 50 00 "Metal Fabrications" for steel lintels and shelf angles not attached to structural-steel frame miscellaneous steel fabrications and other metal items not defined as structural steel.
   4. Section 01 81 13 “Sustainable Design Requirements”
   5. Section 09 91 23 “Interior Painting”

1.3 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4 PERFORMANCE REQUIREMENTS

A. Provide details of simple shear and moment connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand loads indicated and comply with other information and restrictions indicated.
   1. Delegated Design: Engage a qualified professional engineer, as defined in section 314100 “Quality Requirements,” to design Temporary Shoring and Bracing.
      a. Select and complete connections using schematic details indicated in AISC 360.
      b. Use ASD; data are given at service-load level.
      c. Connection design and calculations shall be certified by a qualified professional engineer licensed to practice in the State of New York.

B. Moment Connections: As indicated on the Drawings.

C. Spliced Connections: Spliced connections shall develop the full design capacity of the lesser member.

D. Fabricator may use alternate connections than those indicated in Contract Documents. Submit certified detail and calculations for review and acceptance prior to submitting shop drawings.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components. Shop drawings shall be signed and sealed by a qualified professional engineer licensed to practice in the State of New York.
   1. Shop drawings shall be accompanied by an affidavit, countersigned by the appropriate contractor(s), attesting that all materials and products will conform to applicable specifications, standards, yield points, grades and the likes,
   2. Include plans, details of cuts, connections, splices, camber, holes, and other pertinent data.
   3. Contractor shall review all shop drawing submittals for compliance with design documents prior to submittal to architect for design concept review.
   4. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
   5. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.

C. Connection Calculations: Calculations and typical connection details shall be submitted for all connections not specifically detailed on contract documents. Connections and details shall be designed per criteria provided on the structural contract documents and per all relevant AISC documents. Calculations and details shall be signed and sealed by a qualified professional engineer licensed to practice in the State of New York.

D. Qualification Data: For qualified Installer fabricator.

E. Welding certificates.

F. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

G. Mill test reports for structural steel, including chemical and physical properties.
   1. Submit certified copies of mill test reports for all steel furnished.
   2. Mill test reports shall comply with all applicable parts if ASTM specifications.

H. Product Test Reports: For the following
   1. Bolts, nuts, and washers including mechanical properties and chemical analysis.

2. Direct-tension indicators.
3. Tension-control, high-strength bolt-nut-washer assemblies.
4. Shear stud connectors.
5. Shop primers.
6. Nonshrink grout.

I. Source quality-control reports.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.

C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

D. Comply with applicable provisions of the following specifications and documents:
1. AISC 303.
2. AISC 360.
3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

E. Preinstallation Conference: Conduct conference at Project site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
1. Fasteners may be repackaged provided Owner’s testing and inspecting agency observes repackaging and seals containers.
2. Clean and re-lubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.8 COORDINATION

A. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 70 percent.

B. W-Shapes: ASTM A 992/A 992M.

C. Channels, Angles -Shapes: ASTM A 36/A 36M.

D. Plate and Bar: ASTM A 36/A 36M.

E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B , structural tubing.

F. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.
   1. Direct-Tension Indicators: ASTM F 959, Type 325, compressible-washer type with plain finish.

B. High-Strength Bolts, Nuts, and Washers: ASTM A 490, Type 1, heavy-hex steel structural bolts or tension-control, bolt-nut-washer assemblies with splined ends; ASTM A 563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers with plain finish.
   1. Direct-Tension Indicators: ASTM F 959, Type 490, compressible-washer type with plain finish.

C. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.
   1. Finish: Plain.

D. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.
   1. Shear connectors shall be ¾ inch diameter, by 3 inches long.

E. Unheaded Anchor Rods: ASTM F 1554, Grade 36.
   1. Configuration: Straight.
   2. Nuts: ASTM A 563.

F. Threaded Rods: ASTM A 36/A 36M.
   1. Nuts: ASTM A 563.

G. Adhesive Threaded Rod Anchors: ASTM F 1554, Grade 36 and Grade 55.
   1. Nuts: ASTM A 563.
   2. Provide Grade 55 anchors where called for on drawings. Anchors 1 inch diameter and greater shall be Grade 55.

2.3 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and non-staining, mixed with water to consistency suitable for application and a 30-minute working time.

2.4 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
   1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 2, "Hand Tool Cleaning ."

F. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

G. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
   1. All misallocated holes shall be infilled with the same materials as the structural steel members
   2. All “flame cut” holes shall be cut such that they are 1/8” diameter less than the required hole diameter and the remaining material removed by mechanical removal.

2.5 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
   1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.
   2. All shop welds inaccessible for field testing after fabrication must be shop inspected.

2.6 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
   1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
   2. Galvanize lintels attached to structural-steel frame and located in exterior walls.

2.7 SOURCE QUALITY CONTROL

A. Testing Agency: Fabricator will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports or become an AISC- Certified Plant, Category STD.
   1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Bolted Connections: Shop-bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
   1. Liquid Penetrant Inspection: ASTM E 165.
   2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
   3. Ultrasonic Inspection: ASTM E 164.
   4. Radiographic Inspection: ASTM E 94.

E. In addition to visual inspection, shop-welded shear connectors will be tested and inspected

according to requirements in AWS D1.1/D1.1M for stud welding and as follows:

1. Bend tests will be performed if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedment's for compliance with requirements.
   1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedment's showing dimensions, locations, angles, and elevations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
   1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Weld plate washers to top of baseplate.
   3. Pretension anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
   4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.

2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated on contract documents.

F. Do not use thermal cutting during erection unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1/D1.1M.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.

2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.

B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.

1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.

D. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:

1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.

2. Conduct tests on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the

Contract Documents.

3.6 REPAIRS AND PROTECTION

A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.

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END OF SECTION 051200

SECTION 05 31 00 - STEEL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Roof deck.
2. Form deck.

B. Related Requirements:
1. Section 03 30 00 "Cast-in-Place Concrete" for normal-weight structural concrete fill over steel deck.
2. Section 05 12 00 "Structural Steel Framing" for shop- and field-welded shear connectors.
3. Section 05 50 00 "Metal Fabrications" for framing deck openings with miscellaneous steel shapes.
4. Section 01 81 13 “Sustainable Design Requirements”.

1.3 SUBMITTALS

A. Product Data: For each type of deck, accessory, and product indicated.

B. Shop Drawings:

C. Include layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

D. Welding certificates.

E. Product Certificates: For each type of steel deck.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that each of the following complies with requirements:
1. Powder-actuated mechanical fasteners.

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."

B. FM Global Listing: Provide steel roof deck evaluated by FM Global and listed in its "Approval

Guide, Building Materials" for Class 1 fire rating and Class 1-90 windstorm ratings.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.

B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.
   1. Protect and ventilate acoustical cellular roof deck with factory-installed insulation to maintain insulation free of moisture.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."

B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

C. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 60 percent.

2.2 ROOF DECK

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Canam United States; Canam Group Inc.
   2. Epic Metals Corporation.
   3. New Millennium Building Systems, LLC.
   4. Nucor Corp.; Vulcraft Group.
   5. Wheeling Corrugating Company; Div. of Wheeling-Pittsburgh Steel Corporation.

B. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
   1. Galvanized-Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), G60 zinc coating.
   2. Deck Profile: As indicated.
   3. Profile Depth: As indicated.

4. Design Uncoated-Steel Thickness: As indicated.
5. Span Condition: Triple span or more.
6. Side Laps: Overlapped or interlocking seam at Contractor's option.

2.3 FORM DECK

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Canam United States; Canam Group Inc.
   2. Epic Metals Corporation.
   3. New Millennium Building Systems, LLC.
   4. Nucor Corp.; Vulcraft Group.
   5. Wheeling Corrugating Company; Div. of Wheeling-Pittsburgh Steel Corporation.

B. Form Deck: Fabricate panels, with integrally embossed or raised pattern ribs and interlocking side laps, to comply with "SDI Specifications and Commentary for Form Deck," in SDI Publication No. 31, with the minimum section properties indicated, and with the following:
   1. Galvanized-Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33, G60 zinc coating.
   2. Profile Depth: as indicated.
   3. Design Uncoated-Steel Thickness: As indicated.
   4. Span Condition: Single span where shown on structural construction drawings, triple span or more elsewhere.

2.4 ACCESSORIES

A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.

B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.

C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 minimum diameter.

D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.

E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi, not less than 0.0359-inch design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.

F. Pour Stops and Girder Fillers: Steel sheet, minimum yield strength of 33,000 psi, of same material and finish as deck, and of thickness and profile recommended by SDI Publication

No. 31 for overhang and slab depth.

G. Column Closures, End Closures, Z-Closures, and Cover Plates: Steel sheet, of same material, finish, and thickness as deck unless otherwise indicated.

H. Flat Sump Plates: Single-piece steel sheet, 0.0747 inch thick, of same material and finish as deck. For drains, cut holes in the field.

I. Recessed Pans: Single-piece steel sheet, 0.0747 inch thick, of same material and finish as deck, with 3-inch- wide flanges and level or sloped recessed pans of 1-1/2-inch minimum depth. For drains, cut holes in the field.

J. Galvanizing Repair Paint: ASTM A 780.

K. Repair Paint: Manufacturer's standard rust-inhibitive primer of same color as primer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 31, manufacturer's written instructions, and requirements in this Section.

B. Install temporary shoring before placing deck panels if required to meet deflection limitations.

C. Locate deck bundles to prevent overloading of supporting members.

D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.

1. Align cellular deck panels over full length of cell runs and align cells at ends of abutting panels.

E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.

F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.

G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.

H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.

I. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners and install according to deck manufacturer's written instructions.

3.3 ROOF-DECK INSTALLATION

A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than 1-1/2 inches long, and as follows:
   1. Weld Diameter: 5/8 inch, nominal.
   2. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds 2 inches apart in the field of roof and 6 inches apart in roof corners and perimeter, based on roof-area definitions in FMG Loss Prevention Data Sheet 1-28.

B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of 1/2 of the span or 18 inches , and as follows:
   1. Mechanically fasten with self-drilling, No. 10 diameter or larger, carbon-steel screws.

C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:
   1. End Joints: Lapped 2 inches minimum or butted at Contractor's option.

D. Roof Sump Pans and Sump Plates: Install over openings provided in roof deck and weld or mechanically fasten flanges to top of deck. Space welds/ mechanical fasteners not more than 12 inches apart with at least one weld /fastener at each corner.
   1. Install reinforcing channels or zees in ribs to span between supports and weld or mechanically fasten.

E. Miscellaneous Roof-Deck Accessories: Install ridge and valley plates, finish strips, end closures, and reinforcing channels according to deck manufacturer's written instructions. Weld or mechanically fasten to substrate to provide a complete deck installation.
   1. Weld cover plates at changes in direction of roof-deck panels unless otherwise indicated.

F. Flexible Closure Strips: Install flexible closure strips over partitions, walls, and where indicated. Install with adhesive according to manufacturer's written instructions to ensure complete closure.

3.4 FORM-DECK INSTALLATION

A. Fasten form-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated and as follows:
   1. Weld Diameter: 5/8 inch, nominal.
   2. Weld Spacing: Weld edge ribs of panels at each support. Space additional welds an

average of 12 inches apart, but not more than 18 inches apart.

3. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds 12 inches apart in the field of deck and 6 inches apart at deck corners and perimeter.
4. Weld Washers: Install weld washers at each weld location.

B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of half of the span or 36 inches, and as follows:
1. Mechanically fasten with self-drilling, No. 10 diameter or larger, carbon-steel screws.
2. Mechanically clinch or button punch.
3. Fasten with a minimum of 1-1/2-inch- long welds.

C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches , with end joints as follows:
1. End Joints: Lapped or butted at Contractor's option.

D. Pour Stops and Girder Fillers: Weld steel sheet pour stops and girder fillers to supporting structure according to SDI recommendations unless otherwise indicated.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Consultant will engage a qualified testing agency to perform tests and inspections.

B. Field welds will be subject to inspection.

C. Testing agency will report inspection results promptly and in writing to Contractor and Architect.

D. Remove and replace work that does not comply with specified requirements.

E. Additional inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.6 PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.
1. Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.
2. Wire brushing, cleaning, and repair painting of bottom deck surfaces are included in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

C. Repair Painting: Wire brushing, cleaning, and repair painting of rust spots, welds, and abraded areas of both deck surfaces are included in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

D. Provide final protection and maintain conditions to ensure that steel deck is without damage or deterioration at time of Substantial Completion.

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END OF SECTION 053100

SECTION 05 40 00 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Exterior and interior non-load-bearing wall framing.

B. Related Requirements:
   1. Section 05 50 00 "Metal Fabrications"

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of cold-formed steel framing product and accessory.

B. Shop Drawings:
   1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
   2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

C. Delegated-Design Submittal: For cold-formed steel framing, shop drawings and calculations shall be signed and sealed by a qualified professional engineer licensed to practice in the State of New York.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Welding certificates.

C. Product Test Reports: For each listed product, for tests performed by a qualified testing agency.
   1. Steel sheet.

2. Power-actuated anchors.
3. Mechanical fasteners.
4. Vertical deflection clips.
5. Horizontal drift deflection clips
6. Miscellaneous structural clips and accessories.

D. Research Reports: For non-standard cold-formed steel framing, from ICC-ES.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

B. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.

C. Welding Qualifications: Qualify procedures and personnel according to the following:
1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

D. Comply with AISI Cold–formed Steel Design Manual and AISI S100 Specification and Commentary, Latest Editions.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect cold-formed steel framing from corrosion, moisture staining, deformation, and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Clark Western Building Systems, Inc.
2. Dietrich Metal Framing; a Worthington Industries Company.
3. Steel Network, Inc. (The).

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design cold-formed steel framing.

B. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.
1. Design Loads: As indicated on design documents.

2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
   a. Interior Load-Bearing Wall Framing: Horizontal deflection of 1/240 of the wall height under a horizontal load of 10 lbf/sq. ft.
   b. Exterior Non-Load-Bearing Framing: Horizontal deflection of 1/600 of the wall height using a wind load factor of 1.0.
3. Design framing systems to provide for movement of framing members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F.
4. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
   a. Upward and downward movement of 1 inch.
5. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.

C. Cold-Formed Steel Framing Design Standards:
1. Floor and Roof Systems: AISI S210.
2. Wall Studs: AISI S211.
3. Headers: AISI S212.
4. Lateral Design: AISI S213.

D. AISI Specifications and Standards: Unless more stringent requirements are indicated, comply with AISI S100 and AISI S200.

E. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.3 COLD-FORMED STEEL FRAMING, GENERAL

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating weight as follows:
1. Grade: ST50H As required by structural performance.
2. Coating: G60.

C. Steel Sheet for Vertical Deflection and Drift Clips: ASTM A 653/A 653M, structural steel, zinc coated, of grade and coating as follows:
1. Grade: As required by structural performance.
2. Coating: G60.

2.4 EXTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
   1. Minimum Base-Metal Thickness: 16 gauge.
   2. Minimum Flange Width: 1-5/8 inches.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
   1. Minimum Base-Metal Thickness: Matching steel studs.
   2. Minimum Flange Width: 2 inches.

C. Steel Box or Back-to-Back Headers: Manufacturer's standard C-shapes used to form header beams, of web depths indicated, unpunched, with stiffened flanges, and as follows:
   1. Minimum Base-Metal Thickness: 16 gauge.
   2. Minimum Flange Width: 1-5/8 inches.

D. Vertical Deflection Clips: Manufacturer's standard head clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      a. ClarkWestern Building Systems, Inc.
      b. Dietrich Metal Framing; a Worthington Industries company.
      c. Steel Network, Inc. (The).

E. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:
   1. Minimum Base-Metal Thickness: Matching steel studs.
   2. Flange Width: 1 inch plus the design gap for one-story structures.

F. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure through positive mechanical attachment to stud web and structure.

2.5 SOFFIT FRAMING

A. Exterior Soffit Frame: Manufacturer's standard C-shaped steel sections, of web depths indicated, with stiffened flanges, and as follows:
   1. Minimum Base-Metal Thickness: 14 gauge.
   2. Minimum Flange Width: 1-5/8 inches.

2.6 FRAMING ACCESSORIES

A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members.

B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
   1. Supplementary framing.
   2. Bracing, bridging, and solid blocking.
   3. Web stiffeners.
   4. Anchor clips.
   5. End clips.
   6. Foundation clips.
   7. Gusset plates.
   8. Stud kickers and knee braces.
   9. Joist hangers and end closures.
   10. Hole reinforcing plates.
   11. Backer plates.

2.7 ANCHORS, CLIPS, AND FASTENERS

A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.

B. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.

C. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with allowable load capacities calculated according to ICC-ES AC70, greater than or equal to the design load, as determined by testing per ASTM E 1190 conducted by a qualified testing agency.

D. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
   1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.

E. Welding Electrodes: Comply with AWS standards.

2.8 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint:
   1. ASTM A 780.
   2. SSPC – Paint 20 or MIL-P-21035B.

B. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.

C. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, and plasticizing and water-reducing agents, complying with ASTM C 1107/C1107 M, with fluid consistency and 30-minute working time.

D. Shims: Load bearing, high-density multimonomer plastic, and nonleaching; or of cold-formed steel of same grade and coating as framing members supported by shims.

E. Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to match width of bottom track or rim track members.

2.9 FABRICATION

A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
   1. Fabricate framing assemblies using jigs or templates.
   2. Cut framing members by sawing or shearing; do not torch cut.
   3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
      a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
      b. Locate mechanical fasteners and install according to Shop Drawings, with screw penetrating joined members by no fewer than three exposed screw threads.
   4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.

B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or permanent distortion.

C. Fabrication Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
   1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
   2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.

B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that are required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

C. Install load bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch to ensure a uniform bearing surface on supporting concrete or masonry construction.

D. Install sealer gaskets at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

3.3 INSTALLATION, GENERAL

A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.

B. Install cold-formed steel framing according to AISI S200 and to manufacturer's written instructions unless more stringent requirements are indicated.

C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
   1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch.

D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.
   1. Cut framing members by sawing or shearing; do not torch cut.

   2. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
      a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
      b. Locate mechanical fasteners and install according to Shop Drawings, and complying with requirements for spacing, edge distances, and screw penetration.

E. Install framing members in one-piece lengths. Splice connections shall be allowed for track members only and shall be staggered a minimum of three (3) stud spaces.

F. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.

G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.

H. Install insulation, specified in Section 072100 "Thermal Insulation," in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.

I. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

J. Erection Tolerances: Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
   1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.4 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated.

B. Fasten both flanges of studs to top and] bottom track unless otherwise indicated. Space studs as follows:
   1. Stud Spacing: As indicated.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
   1. Install single deep-leg deflection tracks and anchor to building structure.
   2. Install double deep-leg deflection tracks and anchor outer track to building structure.
   3. Connect vertical deflection clips to infill studs and anchor to building structure.
   4. Connect drift clips to cold-formed metal framing and anchor to building structure.

E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but not more than 48 inches apart. Fasten at each stud intersection.
   1. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.
      a. Install solid blocking at centers as indicated on Shop Drawings, and 96-inch centers maximum
   2. Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
   3. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
   4. Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.5 FIELD QUALITY CONTROL

A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Field and shop welds will be subject to testing and inspecting.

C. Testing agency will report test results promptly and in writing to Contractor and Architect.

D. Remove and replace work where test results indicate that it does not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.6 REPAIRS AND PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes but not limited to:
   1. Steel framing and supports for applications where framing and supports are not specified in other Sections.
   2. Loose bearing and leveling plates for applications where they are not specified in other Sections.
   3. General miscellaneous steel applications.

B. Products furnished, but not installed, under this Section:
   1. Loose steel lintels.
   2. Anchor bolts
   3. Beam bearing plates.
   4. Metal deck bearing plates.
   5. Concrete embeds.

C. Related Sections:
   1. Section 033000 "Cast-in-Place Concrete" for installing anchor bolts, and other items cast into concrete.
   2. Section 051200 "Structural Steel Framing."
   3. Section 011813 “Sustainable Design Requirements.”
   4. Section 042001 “Masonry Veneer.”
   5. Section 042200 “Concrete Unit Masonry”
   6. Section 099123 “Interior Painting”

1.3 SUBMITTALS

A. Product Data: For the following:
   1. Paint products.
   2. Grout.

B. Shop Drawings: Show fabrication and installation details for metal fabrications.
   1. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.
   2. Contractor shall review all shop drawing submittal for compliance with design documents prior to submittal to architect for design concept review.

C. Welding certificates.

D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

E. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel within this specification section, if available. A statement of the contractor's good faith effort to obtain the EPD shall be provided if not available.
   1. Manufacturer-provided EPDs must be Product Specific Type III (Third Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management- Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services.*

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Welding Qualifications: Qualify procedures and personnel according to the following:
   1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
   2. AWS D1.6, "Structural Welding Code - Stainless Steel."

C. Post Installed Epoxy Anchors:
   1. Installer Qualifications:
      a. Post installed epoxy anchors shall be installed by an installer with at least three years of experience performing similar installations.
   2. Installer Training: Conduct a thorough training with the manufacturer or the manufacturer's representative for the installer on the project. Training to consist of a review of the complete installation process for post installed epoxy anchors , to include but not limited to:
      a. Hole drilling procedure
      b. Hole preparation and cleaning technique
      c. Adhesive injection technique and dispenser training/maintenance
      d. Rebar dowel preparation and installation
      e. Proof load/torqueing

   3. Certifications: Anchors shall have the following certifications:
      a. ICC ES Evaluation Report indicating conformance with the current applicable ICC ES Acceptance Criteria

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before starting fabrication.

1.6 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages and steel weld plates and angles for casting into concrete.

Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work Area, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.2 FERROUS METALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 60 percent.

B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Steel Tubing: ASTM A 500, cold-formed steel tubing.

2.3 FASTENERS

A. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3; with hex nuts, ASTM A 563, Grade C3; and, where indicated, flat washers.

B. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.
   1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.

C. Plain Washers: Round, ASME B18.22.1.

D. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

E. Cast-in-Place Anchors in Concrete: As indicated on the Drawings; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

F. Cartridge Injection Adhesive Anchors: Threaded steel rod, inserts or reinforcing dowels, complete with nuts, washers, polymer or hybrid mortar adhesive injection system, and manufacturer's installation instructions. Type and size as indicated on Drawings.
   1. Interior Use: Unless otherwise indicated on the Drawings, provide carbon steel threaded rods conforming to ASTM A36, ASTM A 193 Type B7 or ISO 898 Class 5.8 with zinc plating in accordance with ASTM B633, Type III Fe/Zn 5 (SC1) [or carbon steel HIT TZ rods conforming to ASTM A510 with chemical composition of AISI 1038].

2. Exterior Use: As indicated on the Drawings, provide stainless steel anchors. Stainless steel anchors shall be AISI A304 or A316 stainless steel provided with stainless steel nuts and washers of matching alloy group and minimum proof stress equal to or greater than the specified minimum full-size tensile strength of the externally threaded fastener. All nuts shall conform to ASTM F594 unless otherwise specified. Avoid installing stainless steel anchors in contact with galvanically dissimilar metals.

3. Reinforcing dowels shall be A615 Grade 60.

4. Where anchor manufacturer is not indicated, subject to compliance with requirements and acceptance by the Engineer, provide the following:
   a. Hilti HAS threaded rods with HIT-HY 200 Safe Set System using Hilti Hollow Drill Bit and VC 20/40 vacuum System for anchor and rebar anchorage to concrete, ICC ESR-3187.

   b. Hilti HIT-Z anchor rods with HIT-HY 200 Safe Set System for anchorage to concrete, ICC ESR-3187.

2.4 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

C. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 3000 psi.

2.5 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces such that they are “hand smooth”.

C. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
   1. All misallocated holes shall be infilled with the same materials as the structural steel members
   2. All “flame cut” holes shall be cut such that they are 1/8” diameter less than the required hole diameter and the remaining material removed by mechanical removal.

D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

E. Form exposed work with accurate angles and surfaces and straight edges.

F. Weld corners and seams continuously to comply with the following:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing.

G. Fabricate seams and other connections that will be exposed to weather such that they are sealed in a manner to exclude water. Provide weep holes where required to avoid water accumulation.

H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
   1. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches oc., unless otherwise indicated.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

C. Fabricate supports for operable partitions from continuous steel beams of sizes indicated with attached bearing plates, anchors, and braces as indicated and recommended by partition manufacturer. Drill or punch bottom flanges of beams to receive partition track hanger rods; locate holes where indicated on operable partition Shop Drawings.

D. Galvanize miscellaneous framing and supports where exposed at exterior, or as indicated.

E. Prime miscellaneous framing and supports with zinc-rich primer where indicated.

2.7 LOOSE BEARING AND LEVELING PLATES

A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

B. Galvanize plates where exposed at exterior, or as indicated.

2.8 LOOSE STEEL LINTELS

A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single

unit where indicated.

B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span but not less than 8 inches unless otherwise indicated.

C. Galvanize loose steel lintels located in exterior walls, or as indicated.

2.9 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal fabrications after assembly.

C. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.10 STEEL AND IRON FINISHES

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

B. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
1. Shop prime with 2.0 mils dry film thickness (DFT) zinc-rich primer unless otherwise indicated.

C. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength/corrosion resistance of base metals.
2. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors. Provide epoxy anchors with screen tube inserts for fastening to hollow core concrete and clay brick masonry.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLING POST INSTALLED EPOXY ANCHORS

A. Drill holes with rotary impact hammer drills. Drill bits shall be of diameters as specified by the anchor manufacturer. Unless otherwise shown on the Drawings, all holes shall be drilled perpendicular to the concrete surface.

B. Perform anchor installation in accordance with manufacturer’s instructions.
1. Cartridge Injection Adhesive Anchors: Clean all holes per manufacturer instructions to remove loose material and drilling dust prior to installation of adhesive. Inject adhesive into holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive. Follow manufacturer recommendations to ensure proper mixing of adhesive components. Sufficient adhesive shall be injected in the hole to ensure that the annular gap is filled to the surface. Remove excess adhesive from the surface. Shim anchors with suitable device to center the anchor in the hole. Do not disturb or load anchors before manufacturer specified cure time has elapsed.

3.3 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

3.4 INSTALLING BEARING AND LEVELING PLATES

A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates

B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with grout.
1. Use nonshrink grout, nonmetallic, in concealed locations where not exposed to moisture; use nonshrink, nonmetallic grout in exposed locations unless otherwise indicated.
2. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.5 FIELD QUALITY CONTROL

A. Post Installed Adhesive Anchors:
   1. Field Testing: 10% of each anchor type and size of adhesive anchor shall be proof loaded by the independent testing laboratory. Adhesive anchors shall not be torque tested. If any of these test anchors fail to achieve the manufacturers listed capacities, all anchors of the same type and diameter shall be tested.

      a. Tension testing in accordance with ASTM E488
      b. Proof loads shall be applied with a calibrated hydraulic ram.

3.6 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
   1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION 055000

SECTION 055100 - METAL STAIRS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Stairs with grating treads.

B. Structural steel stair framing and supports.

C. Handrails and guards at new metal stairs.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Placement of metal anchors in concrete.

B. Section 042000 - Unit Masonry: Placement of metal fabrications in masonry.

C. Section 055213 - Pipe and Tube Railings: Metal handrails and balusters other than specified in this section.

D. Section 099113 - Exterior Painting: Paint finish.

E. Section 099123 - Interior Painting: Paint finish.

1.3 REFERENCE STANDARDS

A. AISC 201 - AISC Certification Program for Structural Steel Fabricators, Standard for Steel Building Structures.

B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.

C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

F. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

G. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

H. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength.

I. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.

J. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification.

K. AWS D1.1/D1.1M - Structural Welding Code - Steel.

L. NAAMM AMP 510 - Metal Stairs Manual.

M. NAAMM MBG 531 - Metal Bar Grating Manual.

N. NAAMM MBG 532 - Heavy Duty Metal Bar Grating Manual.

O. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer.

P. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").

Q. SSPC-SP 2 - Hand Tool Cleaning.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Delegated Design Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
   1. Delegated-Design Submittal: For stairs, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
   2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   3. Include the design engineer's seal and signature on each sheet of shop drawings.

C. Design Data: As required by authorities having jurisdiction.

D. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

E. Designer's Qualification Statement.

F. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is certified under AISC 201.

1.5 QUALITY ASSURANCE

A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.

B. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and dated no more than 12 months before start of scheduled welding work.

C. Fabricator Qualifications:
   1. A qualified steel fabricator that is certified by the American Institute for Steel Construction (AISC) under AISC 201.

PART 2 PRODUCTS

2.1 METAL STAIRS - GENERAL

A. Metal Stairs: Provide stairs of the design specified, complete with landing platforms, vertical and horizontal supports, railings, and guards, fabricated accurately for anchorage to each other and to building structure.
   1. Regulatory Requirements: Provide stairs and railings that comply with most stringent requirements of local, state, and federal regulations; where requirements of Contract Documents exceed those of regulations, comply with Contract Documents.
   2. Handrails: Comply with applicable accessibility requirements of ADA Standards.
   3. Structural Design: Provide complete stair and railing assemblies that comply with the applicable local code.
   4. Dimensions: As indicated on drawings.
   5. Shop assemble components; disassemble into largest practical sections suitable for transport and access to site.
   6. No sharp or rough areas on exposed travel surfaces and surfaces accessible to touch.
   7. Separate dissimilar metals using paint or permanent tape.

B. Metal Jointing and Finish Quality Levels:
   1. Industrial: All joints made neatly.
      a. Welded Joints: Welded on back side wherever possible.
      b. Welds Exposed to Touch: Ground smooth.
      c. Bolts Exposed to Touch in Travel Area: No nuts or screw threads exposed to touch.

C. Fasteners: Same material or compatible with materials being fastened; type consistent with design and specified quality level.

D. Anchors and Related Components: Same material and finish as item to be anchored, except where specifically indicated otherwise; provide all anchors and fasteners required.

2.2 METAL STAIRS WITH GRATING TREADS

A. Jointing and Finish Quality Level: Industrial, as defined above.

B. Risers: Open.

C. Treads: Steel bar grating.
   1. Grating Type: Welded.
   2. Bearing Bar Depth: 3/4 inch, minimum.
   3. Top Surface: Standard.
   4. Nosing: Abrasive cast aluminum.
   5. Nosing Width: 1-1/4 inch, minimum.
   6. Anchorage to Stringers: End plates welded to grating, bolted to stringers.

D. Stringers: Rolled steel channels.
   1. Stringer Depth: 10 inches.
   2. End Closure: Sheet steel, 14 gauge, 0.075 inch minimum; welded across ends.

E. Railings: Steel pipe railings.

F. Finish: Shop- or factory-prime painted.

2.3 HANDRAILS AND GUARDS

A. Wall-Mounted Rails: Round pipe or tube rails unless otherwise indicated.
   1. Outside Diameter: 1-1/4 inch, minimum, to 1-1/2 inches, maximum.

B. Guards:
   1. Top Rails: Round pipe or tube rails unless otherwise indicated.
      a. Outside Diameter: 1-1/4 inch, minimum, to 1-1/2 inches, maximum.
   2. Infill at Pipe Railings: Pipe or tube rails sloped parallel to stair.
      a. Outside Diameter: 1 inch.
      b. Material: Steel pipe or tube, round.
      c. Vertical Spacing: Maximum 4 inches on center.
      d. Jointing: Welded and ground smooth and flush.
   3. End and Intermediate Posts: Same material and size as top rails.
      a. Horizontal Spacing: As indicated on drawings.
      b. Mounting: Welded to top surface of stringer.

2.4 MATERIALS

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A500/A500M or ASTM A501/A501M structural tubing, round and shapes as indicated.

C. Pipe: ASTM A53/A53M Grade B Schedule 40, black finish.

D. Gratings: Bar gratings that comply with NAAMM MBG 531 or NAAMM MBG 532, whichever applies based on bar sizes.

2.5 ACCESSORIES

A. Factory Fabricated Stair Tread and Nosing:
   1. Materials: Steel.
      a. Tread Abrasive: Cross-hatched silicon carbide abrasive 20 grit.

B. Steel Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, and galvanized to ASTM A153/A153M where connecting galvanized components.

C. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

D. Shop and Touch-Up Primer: SSPC-Paint 15, and comply with VOC limitations of authorities having jurisdiction.

E. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20 Type I - Inorganic, and comply with VOC limitations of authorities having jurisdiction.

2.6 SHOP FINISHING

A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

B. Do not prime surfaces in direct contact with concrete or where field welding is required.

C. Prime Painting: Use specified shop- and touch-up primer.
   1. Preparation of Steel: In accordance with SSPC-SP 2 Hand Tool Cleaning.
   2. Number of Coats: One.

D. Galvanizing: Hot-dip galvanize to minimum requirements of ASTM A123/A123M.
   1. Touch up abraded areas after fabrication using specified touch-up primer for galvanized surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. When field welding is required, clean and strip primed steel items to bare metal.

B. Supply items required to be cast into concrete and embedded in masonry with setting templates.

3.3 INSTALLATION

A. Install components plumb and level, accurately fitted, free from distortion or defects.

B. Provide anchors, plates, angles, hangers, and struts required for connecting stairs to structure.

C. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

D. Provide welded field joints where specifically indicated on drawings. Perform field welding in accordance with AWS D1.1/D1.1M.

E. Other field joints may be either welded or bolted provided the result complies with the limitations specified for jointing quality levels.

F. Obtain approval prior to site cutting or creating adjustments not scheduled.

G. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

3.4 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

END OF SECTION 055100

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wall mounted handrails.

B. Stair railings and guardrails.

C. Free-standing railings at steps.

1.2 RELATED REQUIREMENTS

A. Section 055100 - Metal Stairs: Handrails other than those specified in this section.

B. Section 099113 - Exterior Painting: Paint finish.

C. Section 099123 - Interior Painting: Paint finish.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design.

B. AISC 201 - AISC Certification Program for Structural Steel Fabricators, Standard for Steel Building Structures.

C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

E. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

F. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

G. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.

H. ASTM E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.

I. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.

J. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification.

K. AWS D1.1/D1.1M - Structural Welding Code - Steel.

L. AWS D1.6/D1.6M - Structural Welding Code - Stainless Steel.

M. AWS C3.4M/C3.4 - Specification for Torch Brazing.

N. AWS C3.5M/C3.5 - Specification for Induction Brazing.

O. AWS C3.9M/C3.9 - Specification for Resistance Brazing.

P. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
   1. Delegated-Design Submittal: For handrails, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
   2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   3. Include the design engineer's seal and signature on each sheet of shop drawings.

C. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated within the previous 12 months.

D. Designer's Qualification Statement.

E. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is certified under AISC 201.

1.5 QUALITY ASSURANCE

A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.

B. Welder Qualifications: Welding processes and welding operators qualified within previous 12 months.

C. Fabricator Qualifications:
   1. A qualified steel fabricator that is certified by the American Institute for Steel Construction (AISC) under AISC 201.

PART 2 PRODUCTS

2.1 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

B. Comply with ASTM E985.

C. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 75 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

D. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

E. Allow for expansion and contraction of members and building movement without damage to connections or members.

F. Dimensions: See drawings for configurations and heights.

G. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

H. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

I. Welded and Brazed Joints: Make visible joints butt tight, flush, and hairline; use methods that avoid discoloration and damage of finish; grind smooth, polish, and restore to required finish.
   1. Ease exposed edges to a small uniform radius.
   2. Welded Joints:
      a. Carbon Steel: Perform welding in accordance with AWS D1.1/D1.1M.
      b. Stainless Steel: Perform welding in accordance with AWS D1.6/D1.6M.
   3. Brass/Bronze Brazed Joints:
      a. Perform torch brazing in accordance with AWS C3.4M/C3.4.
      b. Perform induction brazing in accordance with AWS C3.5M/C 3.5.
      c. Perform resistance brazing in accordance with AWS C3.9M/C3.9.

2.2 STEEL RAILING SYSTEM

A. Steel Tube: ASTM A500/A500M Grade B cold-formed structural tubing.

B. Steel Pipe: ASTM A53/A53M Grade B Schedule 80, black finish.

C. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.

D. Exposed Fasteners: No exposed bolts or screws.

E. Straight Splice Connectors: Steel concealed spigots.

F. Galvanizing: In accordance with requirements of ASTM A123/A123M.
   1. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20 Type I - Inorganic.

2.3 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

C. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.

D. Welded Joints:
   1. Exterior Components: Continuously seal joined pieces by intermittent welds and plastic filler. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
   2. Interior Components: Continuously seal joined pieces by intermittent welds and plastic filler.
   3. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

E. Weld connections that cannot be shop welded due to size limitations.
   1. Weld in accordance with AWS D1.1/D1.1M.
   2. Match shop welding and bolting.
   3. Clean welds, bolted connections, and abraded areas.
   4. Touch up shop primer and factory-applied finishes.
   5. Repair galvanizing with galvanizing repair paint per ASTM A780/A780M.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply items required to be cast into concrete or embedded in masonry with setting templates, for installation as work of other sections.

C. Apply two coats of bituminous paint to concealed aluminum surfaces that will be in contact with cementitious or dissimilar materials.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

C. Install railings in compliance with ADA Standards for accessible design at applicable locations.

D. Anchor railings securely to structure.

E. Field weld anchors as indicated on drawings. Touch-up welds with primer. Grind welds smooth.

F. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

3.4 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per floor level, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Roofing nailers.

B. Preservative treated wood materials.

C. Concealed wood blocking, nailers, and supports.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

B. AWPA U1 - Use Category System: User Specification for Treated Wood.

C. ICC (IBC) - International Building Code.

D. PS 20 - American Softwood Lumber Standard.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 2 or Standard Grade.
2. Boards: Standard or No. 3.

2.3 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Anchors: Toggle bolt type for anchorage to hollow masonry.

2.4 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
b. Treat lumber exposed to weather.
c. Treat lumber in contact with roofing, flashing, or waterproofing.
d. Treat lumber in contact with masonry or concrete.
e. Treat lumber in other locations as indicated.

PART 3 EXECUTION

3.1 PREPARATION

3.2 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

D. Provide blocking members as indicated on the drawings.

3.3 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

3.5 CLEANING

A. Waste Disposal: See Section 017419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 061000

SECTION 070553 - FIRE AND SMOKE ASSEMBLY IDENTIFICATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Identification markings for fire and smoke rated partitions, and fire rated walls.

1.2 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Paint finish.

1.3 REFERENCE STANDARDS

A. ICC (IBC) - International Building Code.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.5 FIELD CONDITIONS

A. Do not install painted markings when ambient temperature is lower than recommended by coating manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

2.2 FIRE AND SMOKE ASSEMBLY IDENTIFICATION

A. Regulatory Requirements: Comply with "Marking and Identification" requirements of "Fire-Resistance Ratings and Fire Tests" chapter of ICC (IBC).

B. Applied Fire and Smoke Assembly Identification: Identification markings applied to partition with paint and a code compliant stencil. See Section 099123 for products.

C. Languages: Provide sign markings in English.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.2 PREPARATION

A. See Section 099123 for substrate preparation for painted markings.

3.3 INSTALLATION

A. Locate markings as required by ICC (IBC).

B. Install applied markings in accordance with Section 099123.

C. Install neatly, with horizontal edges level.

D. Protect from damage until Date of Substantial Completion; repair or replace damaged markings.

END OF SECTION 070553

SECTION 071616 - CRYSTALLINE WATERPROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Crystalline waterproofing.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete to be waterproofed.

B. Section 042000 - Unit Masonry: Concrete masonry units to be waterproofed.

1.3 REFERENCE STANDARDS

A. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating.

B. ASTM D4259 - Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application.

C. COE CRD-C 48 - Handbook for Concrete and Cement Standard Test Method for Water Permeability of Concrete.

D. NSF 61 - Drinking Water System Components - Health Effects.

E. UL (DIR) - Online Certifications Directory.

F. NRCA (WM) - The NRCA Waterproofing Manual.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Test data showing hydraulic permeability.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Installation methods.
   5. Details for waterproofing at joints, intersections, and other special conditions.
   6. Precautions for curing and filling water holding structures.

C. Manufacturer's qualification statement.

D. Installer's qualification statement.

E. Specimen warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience and providing technical representative to visit project site.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.6 MOCK-UPS

A. See Section 014000 - Quality Requirements for additional requirements.

B. Provide a mock-up for evaluation of surface preparation techniques and application workmanship, 10 feet long by 10 feet wide.

C. Locate where directed.

D. Do not proceed with remaining work until workmanship, color, and texture are approved by Architect.

E. Refinish mock-up area as required to produce acceptable work.

F. Mock-up may remain as part of work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.

B. Store products in manufacturer's unopened packaging until ready for installation.

C. Take necessary precautions to keep cementitious materials dry.

1.8 FIELD CONDITIONS

A. Maintain environmental conditions, such as temperature, humidity, and ventilation within limits recommended by manufacturer for acceptable results; do not install products under environmental conditions outside the manufacturer's indicated limits.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Installer Warranty: Provide 2-year warranty commencing on the Date of Substantial Completion for correcting leaking waterproofing, unless leakage is caused by structural failure, structural movement, or other causes beyond the installer's control. Complete forms in Owner's name and register with installer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Crystalline Waterproofing:

1. Basis of Design: Xypex Chemical Corporation; Xypex Concentrate: www.xypex.com.
2. Euclid Chemical Company: www.euclidchemical.com.
3. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com.
4. W. R. Meadows, Inc: www.wrmeadows.com.
5. Substitutions: See Section 016000 - Product Requirements.

2.2 ASSEMBLIES

A. Crystalline Waterproofing for Concrete Building Surfaces:
   1. Interior side of elevator pits.
   2. Interior side of footings and foundation walls.
   3. Between concrete mud slab and finish slab; coating application, not dry sprinkle.
   4. Surfaces as indicated on drawings.

2.3 MATERIALS

A. Crystalline Waterproofing: Portland cement, quartz or silica sand, and other active chemicals that when applied to surface of concrete forms insoluble crystals in capillary pores preventing passage of liquids, while having no adverse effect on normal properties of concrete.
   1. Water Permeability of Applied Concrete: No measurable leakage or water flow at pressure ranging from 175 psi to 200 psi when tested in accordance with COE CRD-C 48, using at least 2-inch thick sample, and with applied surface preparation and installation in accordance with NRCA (WM).
   2. Toxicity: Non-toxic.
      a. Potable Water and Drinking Water Safe: Provide UL (DIR) listed and labeled waterproofing; tested safe for use in potable drinking water applications in accordance with NSF 61.

B. Patching Compound: Ready-mixed cementitious mortar approved by waterproofing manufacturer for patching or filling tie holes, reveals, honeycombs, or other damaged cementitious surfaces and compatible with substrate.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.
   1. Remove dust, dirt, mortar, efflorescence, grease, oils, paint, form-release agents, and curing compounds in accordance with ASTM D4258.

B. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under project conditions, and consider use of sandblasting, water blasting, or acid etching as recommended.

1. Troweled Finish: Prepare concrete surface by abrasive cleaning in accordance with ASTM D4259 before coating application.

C. Plug water leaks.

D. Patch holes, construction joints, and cracks; remove defective concrete.

E. Obtain approval of manufacturer's field representative before beginning installation.

3.3 INSTALLATION

A. Install in accordance with manufacturer's written instructions, maintain environmental conditions required and recommended by manufacturer, and keep a copy of manufacturer's instructions on site.

B. Coordinate waterproofing installation with installation of products that must penetrate waterproofed surfaces.

C. Prevent excessive drying of surface.
1. Cure waterproofing for at least three days, or length of time required by manufacturer, with water spray and adequate air circulation.
2. Do not use chemical curing agents unless explicitly approved by waterproofing manufacturer.

D. Do not backfill, fill water or liquid holding structures, or apply finish coatings until time period recommended by manufacturer has passed.

3.4 PROTECTION

A. Protect from damage by weather; do not cover with vapor impermeable sheathing or films unless air circulation is provided.

B. Touch-up, repair or replace damaged waterproofing after Date of Substantial Completion.

END OF SECTION 071616

SECTION 075400 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Adhered system with thermoplastic roofing membrane.

B. Insulation, flat and tapered.

C. Vapor retarder.

D. Flashings.

E. Roofing stack boots and walkway pads.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

A. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

B. ASTM D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.

C. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin-Based Sheet Roofing.

D. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

E. NRCA (RM) - The NRCA Roofing Manual.

F. NRCA (WM) - The NRCA Waterproofing Manual.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.
   1. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, and fasteners.

C. Shop Drawings: Submit drawings that indicate joint or termination detail conditions, conditions of interface with other materials, and setting plan for tapered insulation.

D. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.

E. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.

F. Manufacturer's qualification statement.

G. Installer's qualification statement.

H. Warranty Documentation:
1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
2. Submit installer's written verification that installation complies with warranty conditions for waterproof membrane.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of this section with at least three years of documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact, unless otherwise indicated.

B. Store materials in weather protected environment, clear of ground and moisture.

C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

D. Protect foam insulation from direct exposure to sunlight.

1.8 FIELD CONDITIONS

A. Do not apply roofing membrane during unsuitable weather.

B. Do not apply roofing membrane when ambient temperature is below 40 degrees F or above 90 degrees F.

C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. System Warranty: Provide manufacturer's system warranty agreeing to repair or replace roofing that leaks or is damaged due to wind or other natural causes.
   1. Warranty Term: 20 years.
   2. For repair and replacement include costs of both material and labor in warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Thermoplastic Polyolefin (TPO) Membrane Roofing Materials:
   1. B asis of Design: Carlisle SynTec Systems; Sure-Weld TPO: www.carlisle-syntec.com.
   2. Elevate: www.holcimelevate.com.
   3. Johns Manville: www.jm.com.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Insulation:
   1. Carlisle SynTec Systems; SecurShield Insulation: www.carlisle-syntec.com/#sle.
   2. Johns Manville: www.jm.com/#sle.
   3. Owens Corning Corporation: www.owenscorning.com/en-us.

2.2 ROOFING

A. Thermoplastic Membrane Roofing: One ply membrane, fully adhered, over insulation.

B. Acceptable Insulation Types - Constant Thickness Application:
   1. Minimum 2 layers of polyisocyanurate board.

C. Acceptable Insulation Types - Tapered Application:
   1. Tapered polyisocyanurate board.

2.3 MEMBRANE ROOFING AND ASSOCIATED MATERIALS

A. Membrane Roofing Materials:
   1. TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sheet contains reinforcing fabrics or scrims.
      a. Thickness: 60 mil, 0.060 inch, minimum.
   2. Sheet Width: Factory fabricated into widest possible sheets.
   3. Color: White.

B. Seaming Materials: As recommended by membrane manufacturer.

C. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials.
   1. Fire-retardant adhesive.

D. Flexible Flashing Material: Same material as membrane.

2.4 INSULATION

A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.
   1. Classifications:
      a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
         1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of the core foam.
         2) Compressive Strength: Classes 1-2-3, Grade 2, 20 psi (138 kPa), minimum.
   2. Board Size: 48 by 48 inches.
   3. Board Thickness: 3.0 inches.
   4. Tapered Board: Slope as indicated; minimum thickness 1/4 inch; fabricate of fewest layers possible.
   5. Board Edges: Square.

2.5 ACCESSORIES

A. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.

B. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self adhering.

C. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.

D. Membrane Adhesive: Water based, as recommended by membrane manufacturer.

E. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.

F. Insulation Adhesive: As recommended by insulation manufacturer.

G. Sealants: As recommended by membrane manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work.

B. Verify deck is supported and secure.

C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.

D. Verify deck surfaces are dry and free of snow or ice.

E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.2 PREPARATION - CONCRETE DECK

A. Verify adjacent precast concrete roof members do not vary more than 1/4 inch in height. Verify grout keys are filled flush.

B. Fill surface honeycomb and variations with latex filler.

C. Do not begin work until elevated concrete substrate has cured at least 28 days and moisture content is five percent or less.
   1. Test as Follows:
      a. Concrete Moisture Content: No beading water under plastic after 16 hours when tested in accordance with ASTM D4263.
      b. Relative Humidity in Concrete: Not greater than 75 percent when tested in accordance with ASTM F2170.

3.3 INSTALLATION, GENERAL

A. Perform work in accordance with manufacturer's instructions, NRCA (RM), and NRCA (WM) applicable requirements.

B. Do not apply roofing membrane during cold or wet weather conditions.

C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.

D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

F. Coordinate this work with installation of associated counterflashings installed by other sections as the work of this section proceeds.

3.4 INSTALLATION - VAPOR RETARDER AND INSULATION, UNDER MEMBRANE

A. Install vapor retarder to deck surface with adhesive in accordance with manufacturer's instructions.
   1. Extend vapor retarder under cant strips and blocking to deck edge.
   2. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.

B. Ensure vapor retarder is clean and dry, continuous, and ready for application of insulation.

C. Attachment of Insulation: Embed each layer of insulation in adhesive in full contact, in accordance with roofing and insulation manufacturers' instructions.

D. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.

E. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.

F. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

G. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.

H. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches.

I. Do not install more insulation than can be covered with membrane in same day.

3.5 INSTALLATION - MEMBRANE

A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.

B. Shingle joints on sloped substrate in direction of drainage.

C. Fully Adhered Application: Apply adhesive to substrate at rate of ____gallons per square foot. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.

D. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.

E. At intersections with vertical surfaces:
   1. Extend membrane over cant strips and up a minimum of 4 inches onto vertical surfaces.
   2. Fully adhere flexible flashing over membrane and up to nailing strips.

F. Around roof penetrations, seal flanges and flashings with flexible flashing.

G. Install roofing expansion joints where indicated. Make joints watertight.

H. Coordinate installation of roof drains and sumps and related flashings.

3.6 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

B. Owner will provide testing services, and Contractor to provide temporary construction and materials for testing in accordance with requirements.

C. Provide daily on-site attendance of roofing and insulation manufacturer's representative during installation of this work.

3.7 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Remove bituminous markings from finished surfaces.

C. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

D. Repair or replace defaced or damaged finishes caused by work of this section.

3.8 PROTECTION

A. Protect installed roofing and flashings from construction operations.

B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION 075400

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings and counterflashings.

B. Sealants for joints within sheet metal fabrications.

1.2 RELATED REQUIREMENTS

A. Section 077100 - Roof Specialties for copings, fascias and gravel stops.

1.3 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).

B. ASTM A755/A755M - Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.

C. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.

E. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

F. SMACNA (ASMM) - Architectural Sheet Metal Manual.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Sheet Metal Flashing and Trim:
1. ATAS International, Inc: www.atas.com/#sle.
2. Hickman Edge Systems: www.hickmanedgesystems.com/#sle.
3. Petersen Aluminum Corporation: www.pac-clad.com/#sle.
4. Substitutions: See Section 016000 - Product Requirements.

2.2 PREFINISHED ALUMINUM SHEETS

A. Description: Factory-applied topcoat systems applied to aluminum flat sheet substrates prior to fabrication by coil coating; topcoat systems consist of primers and organic topcoats on exposed side and backing coats on unexposed side.

B. Aluminum Sheet Substrates: ASTM B209/B209M, alloy and temper as recommended by manufacturer for application.

C. High-Performance Organic Coating System: Comply with AAMA 2604 for aluminum preparation, pretreatment, primer and finish coat system; provide thermally cured, 50-percent PVDF or silicone-modified polyester systems; tested for weathering for 5 years with 5 delta units color change maximum.

2.3 PREPAINTED, METALLIC-COATED STEEL SHEETS

A. Description: Factory-applied coatings applied to metallic-coated steel sheet substrates prior to fabrication by coil coating; topcoat systems consist of primers and organic topcoats on exposed, top side of sheet; washcoats on bottom, unexposed sheet side.

B. Comply with ASTM A755/A755M.

C. Metallic-Coated Steel Sheet Substrates:

D. Substrate Preparation for Prefinishing: Clean and prepare substrate surfaces in accordance with coating manufacturer's recommendations for substrate type and application.

E. Washcoats or Backercoats: Provide washcoats or backercoats in accordance with organic coating manufacturer's recommendations.

F. Primer Coats: Provide basecoat primers in accordance with coating manufacturer's recommendations for substrate type, topcoat, and application.

G. High-Performance Organic Coating System: Provide thermally cured, 50-percent PVDF or silicone-modified polyester systems in accordance with AAMA 2604; tested for weathering for 5 years with 5 delta units maximum of color change.

2.4 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.

F. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

2.5 FLASHING

A. Flashing Panels for Exterior Wall Penetrations: Premanufactured components and accessories as required to preserve integrity of building envelope; suitable for conduits and facade materials to be installed.

2.6 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer Type: Zinc chromate.

C. Concealed Sealants: Non-curing butyl sealant.

D. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

E. Asphalt Roof Cement: ASTM D4586/D4586M, Type I, asbestos-free.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.

C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.3 INSTALLATION

A. Comply with drawing details.

B. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.

C. Apply plastic cement compound between metal flashings and felt flashings.

D. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

E. Exterior Flashing Receivers: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction, and as follows:
   1. Secure receiver at perimeter of wall opening with adhesives or fasteners.
   2. Place flashing into receiver channel.
   3. Secure flashing with receiver clip.

F. Seal metal joints watertight.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION 076200

SECTION 077100 - ROOF SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured roof specialties, including copings, fascias, and gravel stops.

1.2 RELATED REQUIREMENTS

A. Section 076200 - Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).

B. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems.

C. CDA A4050 - Copper in Architecture - Handbook.

D. NRCA (RM) - The NRCA Roofing Manual.

E. SMACNA (ASMM) - Architectural Sheet Metal Manual.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.

C. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

D. Manufacturer's Installation Instructions: Indicate special procedures, fasteners, supporting members, and perimeter conditions requiring special attention.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Roof Edge Flashings and Copings:
1. ATAS International, Inc: www.atas.com/#sle.
2. Hickman Edge Systems: www.hickmanedgesystems.com/#sle.
3. Petersen Aluminum Corporation: www.pac-clad.com/#sle.
4. Substitutions: See Section 016000 - Product Requirements.

2.2 COMPONENTS

A. Roof Edge Flashings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
1. Configuration: Fascia, and edge securement for roof membrane.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test methods RE-1 and RE-2 to positive and negative design wind pressure as defined by applicable local building code.
3. Exposed Face Height: As indicated on drawings.
4. Material: Formed aluminum sheet, 0.050 inch thick, minimum.
5. Color: As selected by Architect from manufacturer's standard range.

B. Copings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness, and finish as cap; concealed stainless steel fasteners.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by applicable local building code.
3. Wall Width: As indicated on drawings.
4. Outside Face Height: As indicated on drawings.
5. Inside Face Height: As indicated on drawings.
6. Material: Formed aluminum sheet, 0.040 inch thick, minimum.
7. Color: As selected by Architect from manufacturer's standard range.

C. Roof Penetration Sealing Systems: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.

2.3 FINISHES

A. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; color as indicated.

2.4 ACCESSORIES

A. Sealant for Joints in Linear Components: As recommended by component manufacturer.

B. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.

3.2 INSTALLATION

A. Install components in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

B. Seal joints within components when required by component manufacturer.

C. Anchor components securely.

D. Comply with NRCA (RM) drawing details as noted:

E. Coordinate installation of components of this section with installation of roofing membrane and base flashings.

F. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.

G. Coordinate installation of flashing flanges into reglets.

END OF SECTION 077100

SECTION 078400 - FIRESTOPPING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Firestopping systems.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete.

B. Section 042000 - Unit Masonry: Rated CMU walls.

C. Section 053100 - Steel Decking.

1.3 REFERENCE STANDARDS

A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

B. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems.

C. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems.

D. ASTM E2837 - Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed between Rated Wall Assemblies and Nonrated Horizontal Assemblies.

E. ITS (DIR) - Directory of Listed Products.

F. FM (AG) - FM Approval Guide.

G. UL 1479 - Standard for Fire Tests of Penetration Firestops.

H. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems.

I. UL (DIR) - Online Certifications Directory.

J. UL (FRD) - Fire Resistance Directory.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.

C. Product Data: Provide data on product characteristics, performance ratings, and limitations.

D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Manufacturer's qualification statement.

G. Installer's qualification statement.

1.5 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
   1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and:
   1. Verification of minimum three years documented experience installing work of this type.

1.6 MOCK-UPS

A. Install one firestopping assembly representative of each fire rating design required on project.
   1. Where one design may be used for different penetrating items or in different wall constructions, install one assembly for each different combination.
   2. Where firestopping is intended to fill a linear opening, install at least 1 linear foot of firestopping.

B. If accepted, mock-up will represent minimum standard for this work.

C. If accepted, mock-up may remain as part of this work. Remove and replace mock-ups not accepted.

1.7 FIELD CONDITIONS

A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.

B. Provide ventilation in areas where solvent-cured materials are being installed.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Firestopping Manufacturers:
   1. 3M Fire Protection Products: www.3m.com/firestop.
   2. Hilti, Inc: www.us.hilti.com.
   3. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com.
   4. Substitutions: See Section 016000 - Product Requirements.

2.2 MATERIALS

A. Firestopping Materials: Any materials meeting requirements.

B. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.

C. Fire Ratings: Refer to drawings for required systems and ratings.

2.3 FIRESTOPPING ASSEMBLY REQUIREMENTS

A. Head-of-Wall (HW) Joint System Firestopping at Joints Between Fire-Rated Wall Assemblies and Non-Rated Horizontal Assemblies: Use system that has been tested according to ASTM E2837 to have fire resistance F Rating equal to required fire rating of wall assembly.

B. Floor-to-Floor (FF), Floor-to-Wall (FW), Head-of-Wall (HW), and Wall-to-Wall (WW) Joints, Except Perimeter, Where Both Are Fire-Rated: Use system that has been tested according to ASTM E1966 or UL 2079 to have fire resistance F Rating equal to required fire rating of the assembly in which the joint occurs.
   1. Listing by FM (AG), ITS (DIR), UL (DIR), or UL (FRD) in their certification directories will be considered evidence of successful testing.

C. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.
   1. Listing by FM (AG), ITS (DIR), UL (DIR), or UL (FRD) in their certification directories will be considered evidence of successful testing.

2.4 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.
   1. Fire Ratings: Use system that is listed by FM (AG), ITS (DIR), or UL (FRD) and tested in accordance with ASTM E814, ASTM E119, or UL 1479 with F Rating equal to fire rating of penetrated assembly and minimum T Rating Equal to F Rating and in compliance with other specified requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify openings are ready to receive the work of this section.

3.2 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.

B. Remove incompatible materials that could adversely affect bond.

C. Install backing materials to prevent liquid material from leakage.

3.3 INSTALLATION

A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by authorities having jurisdiction.

C. Install labeling required by code.

3.4 CLEANING

A. Clean adjacent surfaces of firestopping materials.

3.5 PROTECTION

A. Protect adjacent surfaces from damage by material installation.

END OF SECTION 078400

SECTION 079200 - JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.2 RELATED REQUIREMENTS

A. Section 079100 - Preformed Joint Seals: Precompressed foam, gaskets, and strip seals.

1.3 REFERENCE STANDARDS

A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.

B. ASTM C1193 - Standard Guide for Use of Joint Sealants.

C. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Installer's qualification statement.

F. Executed warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Nonsag Sealants:
1. Dow Chemical Company: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
2. Sika Corporation: www.usa-sika.com/#sle.
3. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.

2.2 JOINT SEALANT APPLICATIONS

A. Scope:
1. Do Not Seal:
a. Intentional weep holes in masonry.
b. Joints indicated to be covered with expansion joint cover assemblies.
c. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
d. Joints where sealant installation is specified in other sections.
e. Joints between suspended ceilings and walls.

2.3 NONSAG JOINT SEALANTS

A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
1. Color: To be selected by Architect from manufacturer's standard range.
2. Products:
a. Dow; DOWSIL 790 Silicone Building Sealant: www.dow.com/#sle.
b. Pecora Corporation; Pecora 890 NST (Non-Staining Technology): www.pecora.com/#sle.
c. Tremco Commercial Sealants & Waterproofing; Spectrem 1: www.tremcosealants.com/#sle.

B. Silicone Sealant: ASTM C920, Grade NS, Uses A and O; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus and minus 50 percent, minimum.

2. Color: To be selected by Architect from manufacturer's standard range.
3. Products:
   a. Dow; DOWSIL 795 Silicone Building Sealant: www.dow.com/#sle.
   b. Pecora Corporation; Pecora 895NST: www.pecora.com/#sle.
   c. Sika Corporation; Sikasil WS-295: usa.sika.com/#sle.

2.4 ACCESSORIES

A. Sealant Backing Rod, Closed-Cell Type:
   1. Cylindrical flexible sealant backings complying with ASTM C1330 Type C.
   2. Size: 25 to 50 percent larger in diameter than joint width.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.2 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install bond breaker backing tape where backer rod cannot be used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION 079200

PARTIAL RELEASE AND WAIVER OF MECHANIC'S LIEN

PROJECT NAME:

PROJECT ADDRESS:

OWNER:

CONTRACTOR/SUPPLIER:

CONTRACTOR/SUPPLIER'S CONTRACT NUMBER:

THROUGH PERIOD ENDING:

PARTIAL PAYMENT AMOUNT:

CONTRACTOR/SUPPLIER has provided labor, materials, rentals and/or services (collectively, "Work") on the above-described Project.

CONTRACTOR/SUPPLIER, for and in consideration of Partial Payment Amount to be paid upon execution of this Partial Release, does for itself, its successors, administrations and assigns, hereby affirm and agree as follows with respect to all Work performed to date and for which payment has been made pursuant to this Partial Release, except as noted below in Paragraph 3:

1. All labor employed in connection with the Work and the Project and all related payroll taxes and charges (such as withholding taxes, social security taxes and worker's compensation, disability and unemployment taxes and/or insurance premiums) have been paid in full; and

2. All materials, tools, equipment, supplies and services furnished and used upon or in connection with the Work and the Project have been paid for in full; and all sales, use, excise and similar taxes on or in connection with the same have been fully paid; and

3. Upon receipt by CONTRACTOR/SUPPLIER of a check from OWNER in the Partial Payment Amount described above, payable to the CONTRACTOR/SUPPLIER, and when the check has been paid, this document shall become effective to release and forever discharge the OWNER and their respective officers, directors, agents, servants and employees, and all lands, improvements, chattels, and other real and personal property connected with or a part of the Project from any and all claims, demands, liens and claims of lien whatsoever, which it now has or hereafter might or could have arising out of the performance of all Work for which payment has been made.

CONTRACTOR/SUPPLIER will, at its sole cost and expense, forever hold harmless OWNER from any and all claims and demands and will defend against and obtain the discharge of any liens and claims of lien of others arising out of or in connection with the work, including, without limitation, those claimed or asserted by any employee, supplier or subcontractor of the CONTRACTOR/SUPPLIER (or any employee or supplier of any subcontractor/supplier of the undersigned), governmental agency or any insurance carrier; and

CONTRACTOR/SUPPLIER warrants that the amount of payments received or to be received represents the total value earned by CONTRACTOR/SUPPLIER for materials, labor, rentals, equipment, and services supplied to the Project for the period indicated above, for the above-described contract.

CONTRACTOR/SUPPLIER warrants that it has not and will not assign any claims for payment or right to perfect a lien against such land and improvements and appurtenances and warrants that it has the right to execute this waiver and release.

This release and waiver may not be changed orally.

CONTRACTOR/SUPPLIER agrees that the OWNER of the Project, any lender, and any title insurer may rely upon this waiver and release.

IN WITNESS WHEREOF, _____, of _____
has hereunto set her/his hand this _____ day of _____, 20__.

CONTRACTOR/SUPPLIER: _____
AUTHORIZED AGENT: _____
WITNESS: _____ SIGNATURE: _____
TITLE: _____

STATE OF NEW YORK)
) SS.:
COUNTY OF _____)

On the ____ day of _____ in the year 20___ before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public

(Signature and office of individual taking acknowledgment.)

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

B. Hollow metal frames for wood doors.

C. Thermally insulated hollow metal doors with frames.

1.2 RELATED REQUIREMENTS

A. Section 087100 - Door Hardware.

B. Section 088000 - Glazing: Glass for doors and borrowed lites.

C. Section 099113 - Exterior Painting: Field painting.

D. Section 099123 - Interior Painting: Field painting.

1.3 ABBREVIATIONS AND ACRONYMS

A. ANSI: American National Standards Institute.

B. ASCE: American Society of Civil Engineers.

C. HMMA: Hollow Metal Manufacturers Association.

D. NAAMM: National Association of Architectural Metal Manufacturers.

E. NFPA: National Fire Protection Association.

F. SCIF: Sensitive Compartmented Information Facility.

G. UL: Underwriters Laboratories.

1.4 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors.

C. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100).

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

G. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.

H. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.

I. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete.

J. ASTM C476 - Standard Specification for Grout for Masonry.

K. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.

L. ICC A117.1 - Accessible and Usable Buildings and Facilities.

M. NAAMM HMMA 805 - Recommended Selection and Usage Guide for Hollow Metal Doors and Frames.

N. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames.

O. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames.

P. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames.

Q. NAAMM HMMA 860 - Guide Specifications for Hollow Metal Doors and Frames.

R. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames.

S. NFPA 80 - Standard for Fire Doors and Other Opening Protectives.

T. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Hollow Metal Doors and Frames:
1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com.
2. Curries, an Assa Abloy Group company: www.assaabloydss.com.
3. Republic Doors, an Allegion brand: www.republicdoor.com.
4. Steelcraft, an Allegion brand: www.allegion.com.
5. Substitutions: See Section 016000 - Product Requirements.

2.2 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Doors and Frames:
1. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
2. Accessibility: Comply with ICC A117.1 and ADA Standards.
3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
4. Door Edge Profile: Manufacturers standard for application indicated.
5. Typical Door Face Sheets: Flush.
6. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturer's standard.
7. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
8. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
    a. Based on NAAMM HMMA Custom Guidelines: Provide at least A25/ZF75 (galvannealed) for interior applications, and at least A60/ZF180 (galvannealed) or G60/Z180 (galvanized) for corrosive locations.

B. Hollow Metal Panels: Same construction, performance, and finish as doors.

C. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.3 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished.

B. Exterior Doors: Thermally insulated.
   1. Based on NAAMM HMMA Custom Guidelines:
      a. Comply with guidelines of NAAMM HMMA 860 for Hollow Metal Doors and Frames.
      b. Performance Level 3 - Heavy Duty, in accordance with NAAMM HMMA 805.
      c. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
      d. Door Face Metal Thickness: 14 gauge, 0.067 inch, minimum.
      e. Zinc Coating: G90/Z275 galvanized coating; ASTM A653/A653M.
   2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   3. Door Thickness: 1-3/4 inches, nominal.
   4. Weatherstripping: Refer to Section 087100.

C. Interior Doors, Non-Fire-Rated:
   1. Based on NAAMM HMMA Custom Guidelines:
      a. Comply with guidelines of NAAMM HMMA 860 for Hollow Metal Doors and Frames.
      b. Performance Level 3 - Heavy Duty, in accordance with NAAMM HMMA 805.
      c. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
      d. Door Face Metal Thickness: 14 gauge, 0.067 inch, minimum.
      e. Zinc Coating: G90/Z275 galvanized coating; ASTM A653/A653M.
   2. Door Thickness: 1-3/4 inches, nominal.

2.4 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Frame Finish: Factory primed and field finished.

C. Exterior Door Frames: Full profile/continuously welded type.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
   2. Frame Metal Thickness: 12 gauge, 0.093 inch, minimum.
   3. Weatherstripping: Separate, see Section 087100.

D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
   1. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch, maximum, above floor at 90 degree angle.
   2. Frame Metal Thickness: 12 gauge, 0.093 inch, minimum.

E. Transom Bars: Fixed, of profile same as jamb and head.

F. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.

G. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high to fill opening without cutting masonry units.

H. Frames Wider than 48 inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

2.5 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15 mil, 0.015 inch dry film thickness (DFT) per coat; provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
1. Fire-Rated Frames: Comply with fire rating requirements indicated.

2.6 ACCESSORIES

A. Astragals for Double Doors: Specified in Section 087100.

B. Mechanical Fasteners for Concealed Metal-to-Metal Connections: Self-drilling, self-tapping, steel with electroplated zinc finish.

C. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.

D. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

E. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.2 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.3 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 087100.
   1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.

F. Coordinate installation of electrical connections to electrical hardware items.

G. Touch up damaged factory finishes.

3.4 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.5 ADJUSTING

A. Adjust for smooth and balanced door movement.

END OF SECTION 081113

FINAL RELEASE AND WAIVER OF MECHANIC'S LIEN

PROJECT NAME:

OWNER:

CONTRACTOR/SUPPLIER:

CONTRACTOR/SUPPLIER'S CONTRACT NUMBER:

THROUGH PERIOD ENDING:

PARTIAL PAYMENT AMOUNT:

CONTRACTOR/SUPPLIER has provided labor, materials, rentals and/or services (collectively, "Work") on the above-described Project.

CONTRACTOR/SUPPLIER, for and in consideration of Payment Amount to be paid upon execution of this Final Release, does for itself, its successors, administrations and assigns, hereby affirm and agree as follows with respect to all Work performed to date and for which payment has been made pursuant to this Final Release, except as noted below in Paragraph 3:

1. All labor employed in connection with the Work and the Project and all related payroll taxes and charges (such as withholding taxes, social security taxes and worker's compensation, disability and unemployment taxes and/or insurance premiums) have been paid in full; and

2. All materials, tools, equipment, supplies and services furnished and used upon or in connection with the Work and the Project have been paid for in full; and all sales, use, excise and similar taxes on or in connection with the same have been fully paid; and

3. Upon receipt by CONTRACTOR/SUPPLIER of a check from the OWNER in the Payment Amount described above, payable to the CONTRACTOR/SUPPLIER, and when the check has been paid, this document shall become effective to release and forever discharge the OWNER and their respective officers, directors, agents, servants and employees, and all lands, improvements, chattels, and other real and personal property connected with or a part of the Project from any and all claims, demands, liens and claims of lien whatsoever, which it now has or hereafter might or could have arising out of the performance of all Work for which payment has been made.

CONTRACTOR/SUPPLIER will, at its sole cost and expense, forever hold harmless, OWNER from any and all claims and demands and will defend against and obtain the discharge of any liens and claims of lien of others arising out of or in connection with the work, including, without limitation, those claimed or asserted by any employee, supplier or subcontractor of the CONTRACTOR/SUPPLIER (or any employee or supplier of any subcontractor/supplier of the undersigned), governmental agency or any insurance carrier; and

CONTRACTOR/SUPPLIER warrants that the amount of payments received or to be received represents the total value earned by CONTRACTOR/SUPPLIER for materials, labor, rentals, equipment and services supplied to the Project for the above-described contract.

CONTRACTOR/SUPPLIER warrants that it has not and will not assign any claims for payment or right to perfect a lien against such land and improvements and appurtenances and warrants that it has the right to execute this waiver and release.

This release and waiver may not be changed orally.

CONTRACTOR/SUPPLIER agrees that the OWNER of the Project, any lender, any title insurer may rely upon this waiver and release.

IN WITNESS WHEREOF,_____, of _____
has hereunto set her/his hand this_____day of_____, 20___.

CONTRACTOR/SUPPLIER:_____
AUTHORIZED AGENT: _____
WITNESS: _____ SIGNATURE:_____
TITLE: _____

STATE OF NEW YORK)
) SS.:
COUNTY OF_____)

On the ____ day of_____in the year 20 before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public

(Signature and office of individual taking acknowledgment.)

AIA® Document G707™ – 1994

Consent of Surety to Final Payment

PROJECT: *(Name and address)*

Northland Corridor Redevelopment Project
Phase 4
631 Northland Ave.
Buffalo, NY 14211

ARCHITECT'S PROJECT NUMBER:
432607
CONTRACT FOR:

CONTRACT DATED:

OWNER: [ ]
ARCHITECT: [ ]
CONTRACTOR: [ ]
SURETY: [ ]
OTHER: [ ]

TO OWNER: *(Name and address)*
Buffalo Urban Development Corporation
95 Perry Street, #404
Buffalo, NY 14203

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

Buffalo Urban Development Corporation

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

SURETY *(Signature)*

Attest:
(Seal):

(Printed name and title)

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SECTION 083100 - ACCESS DOORS AND PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wall- and ceiling-mounted access units.

1.2 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Field paint finish.

1.3 REFERENCE STANDARDS

A. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.

C. Shop Drawings: Indicate exact position of each access door and/or panel unit.

D. Project Record Documents: Record actual locations of each access unit.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

PART 2 PRODUCTS

2.1 ACCESS DOORS AND PANELS ASSEMBLIES

A. Wall-Mounted Units:
   1. Location: As indicated on drawings or as required by field conditions.
   2. Panel Material: Steel, hot-dipped zinc or zinc-aluminum-alloy coated.
   3. Minimum Size: 12 by 12 inches.
   4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
   5. Masonry or Concrete Mounting Criteria: Provide surface-mounted frame with door surface flush with frame surface.

B. Ceiling-Mounted Units:
   1. Location: As required by field conditions.
   2. Panel Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
   3. Minimum Size - Other Ceilings: 12 by 12 inches.
   4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.

2.2 WALL- AND CEILING-MOUNTED ACCESS UNITS

A. Manufacturers:
   1. Activar Construction Products Group, Inc. - JL Industries: www.activarcpg.com.
   2. ACUDOR Products Inc: www.acudor.com.
   3. Babcock-Davis: www.babcockdavis.com.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Wall- and Ceiling-Mounted Units: Factory-fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.
   1. Door Style: Single thickness with rolled or turned in edges.
   2. Frames: 16-gauge, 0.0598-inch minimum thickness.
   3. Single Steel Sheet Door Panels: 16-gauge, 0,0625-inch minimum thickness.
   4. Units in Fire-Rated Assemblies: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.
      a. Provide products listed by UL (FRD) as suitable for purpose indicated.
   5. Steel Finish: Primed.
   6. Door/Panel Size: As indicated on drawings or as required by field conditions - minimum size 12 inches by 12 inches.
   7. Hardware:
      a. Hardware for Fire-Rated Units: As required for listing.
      b. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.
      c. Latch/Lock: Screw driver slot for quarter turn cam latch.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that rough openings are correctly sized and located.

B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to proceeding with this work.

B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.3 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install frames plumb and level in openings, and secure units rigidly in place.

C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION 083100

SECTION 083323 - OVERHEAD COILING DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Exterior coiling doors.

B. Electric operators and control stations.

C. Wiring from electric circuit disconnect to operators and control stations.

1.2 RELATED REQUIREMENTS

A. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.

B. Section 087100 - Door Hardware: Cylinder cores and keys.

C. Section 260533.13 - Conduit for Electrical Systems: Conduit from electric circuit to operator and from operator to control station.

D. Section 260583 - Wiring Connections: Power to disconnect.

1.3 REFERENCE STANDARDS

A. AAMA 611 - Specification for Anodized Architectural Aluminum.

B. ASCE/SEI 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures.

C. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

D. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

E. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

G. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

H. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

I. ITS (DIR) - Directory of Listed Products.

J. NAAMM AMP 500-06 - Metal Finishes Manual.

K. NEMA ICS 1 - Industrial Control and Systems General Requirements.

L. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts.

M. NEMA ICS 6 - Industrial Control and Systems: Enclosures.

N. NEMA MG 00001 - Motors and Generators.

O. NFPA 70 - National Electrical Code.

P. UL (DIR) - Online Certifications Directory.

Q. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.

R. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide general construction, electrical equipment, and component connections and details.

C. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction as suitable for purpose specified and indicated.

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer's Warranty: Provide two-year manufacturer warranty to repair or replace components of doors that fail in materials or workmanship within specified warranty period.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Overhead Coiling Metal Doors:
1. Basis of Design: Cornell Iron Works, Inc; ESD30: www.cornelliron.com.
2. The Cookson Company: www.cooksondoor.com.

3. Overhead Door Corp.; www.overheaddoor.com.

B. Source Limitations: Obtain overhead coiling doors from single source from single manufacturer.
   1. Obtain operators and controls from overhead coiling-door manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the Uniform Federal Accessibility Standards.

B. Structural Performance, Exterior Doors: Capable of withstanding the f ollowing design wind loads:
   1. Design Wind Load: Uniform pressure (velocity pressure) of 20 lbf/sq. ft., acting inward and outward.
   2. Testing: According to ASTM E330/E330M.
   3. Deflection Limits: Design overhead coiling doors to withstand design wind load without evidencing permanent deformation or disengagement of door components.
   4. Operability under Wind Load: Design overhead coiling doors to remain operable under uniform pressure (velocity pressure) of 20-lbf/sq. ft. wind load, acting inward and outward.

C. Seismic Performance: Overhead coiling doors shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
   1. Component Importance Factor: 1.0.

2.3 COILING DOORS

A. Exterior Coiling Doors: Aluminum slat curtain.
   1. Capable of withstanding positive and negative wind loads of 20 psf without undue deflection or damage to components.
   2. Operation Cycles: Door components and operators capable of operating for not less than 50,000 cycles. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.
      a. Include tamperproof cycle counter.
   3. Sandwich slat construction with insulated core of foamed-in-place polyurethane insulation; minimum R-value of 8.
   4. Air Infiltration: Maximum rate of 0.08 cfm/sq. ft. at 15 and 25 mph when tested according to ASTM E283/E283M.
   5. Door Curtain Slats: Flat profile slats.
      a. Nominal Slat Size: Approximately 2 inches wide by required length.
      b. Insulated-Slat Interior Facing: Metal.
      c. Gasket Seal. Manufacturer's standard continuous gaskets between slats.
   6. Insulated Bottom Bar: Two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch; fabricated from stainless steel.
   7. Finish: Anodized, Clear color.
   8. Guide, Angles: Galvanized steel.
      a. Exposed finish to match curtain slats.
   9. Hood Enclosure: Manufacturer's standard; aluminum.
      a. Shape: Square.

b. Mounting: Face of wall.
10. Electric operation.
11. Mounting: Surface mounted.
12. Locking Devices: Lock and latch handle on outside.
13. Curtain Accessories: Equip door with weatherseals push/pull handles.

B. Electric Door Operator:
1. Usage Classification: Heavy duty, 25 or more cycles per hour and more than 90 cycles per day.
2. Operator Location: Wall.
3. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use.
4. Motor Exposure: Interior.
5. Motor Electrical Characteristics:
a. Horsepower: As recommended by door manufacture for size and type of door.
b. Voltage: 208-V ac, three phase, 60 Hz.
6. Emergency Manual Operation: Push-up type.
7. Obstruction-Detection Device: Automatic photoelectric sensor.
a. Sensor Edge Bulb Color: Black.
8. Control Station(s): Each door to have control stations where indicated on the drawings.

2.4 MATERIALS

A. Metal Curtain Construction: Interlocking slats.
1. Designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as specified.
2. Curtain Bottom for Slat Curtains: Fitted with angles to provide reinforcement and positive contact in closed position.
3. Weatherstripping for Exterior Doors: Moisture and rot proof, resilient type, located at jamb edges, bottom of curtain, and where curtain enters hood enclosure of exterior doors.
a. At door head, use 1/8-inch thick, replaceable, continuous-sheet baffle secured to inside of hood or field-installed on the header.
b. At door jambs, use replaceable, adjustable, continuous, flexible, 1/8-inch thick seals of flexible vinyl, rubber, or neoprene.
4. Double-Wall Aluminum Slats: Minimum thickness; manufacturer's standard for door size and application, made from ASTM B221 (ASTM B221M), aluminum alloy Type 6063 extrusion, thickness of 0.050 inch and as required..
5. Insulation: Fill slats for insulated doors with manufacturer's standard thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E84 or UL 723. Enclose insulation completely within slat faces.
6. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face, with minimum aluminum thickness of 0.032 inch.
7. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door.

B. Guide Construction: Continuous, manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

C. Exterior-Mounted Hood Enclosure and Trim: Internally reinforced to maintain rigidity and shape.
1. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and f ascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood withintermediate support brackets as required to prevent sagging.
2. Aluminum: Aluminum sheet complying with ASTM B209/B209M, of alloy and temper recommended by manufacturer and finisher for type of use and finish indicated.
3. Minimum thickness; 18 gauge, 0.040 inch.

D. Lock Hardware:
1. Cylindrical Locking Mechanism: Latchset lock cylinder, specified in Section 087100.
2. For motor operated units, additional lock or latching mechanisms are not required.
3. Latch Handle: Manufacturer's standard.

E. Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb nominal force to operate.

2.5 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed and labeled by UL (DIR) as defined in NFPA 70. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V AC or DC.
1. Provide interlock switches on motor operated units.
2. Provide tamperproof operation cycle counter.

B. Electric Operators:
1. Usage Classification: Heavy duty, 25 or more cycles per hour and more than 90 cycles per day. Electric operator and components capable of operating for not less than number of cycles per hour indicated for each door.
2. Mounting: Side mounted.
3. Motor Enclosure:
   a. Exterior Coiling Doors: NEMA MG 00001, Type 4; open drip proof.
4. Motor Exposure: Interior.
5. Motor Rating: 1/2 HP; continuous duty.
6. Motor Voltage: 208 volts, single phase, 60 Hz.
7. Motors: Reversible-type motor with controller (disconnect switch)] for motor exposure indicated for each door assembly.
8. Electrical Characteristics: Minimum as indicated for each door assembly. If not indicated, large enough to start, accelerate, and operate door in either direction from any position, at opening speed.

9. Limit Switches: Equip each motorized door with adjustable switches interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.
10. Brake: Manufacturer's standard type, activated by motor controller.
11. Manual override in case of power failure: Push-up type.
12. See Section 260583 for electrical connections.

C. Control Station: Provide standard three button, 'Open-Close-Stop' momentary-contact control device for each operator complying with UL 325. With momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."
1. Interior-Mounted Units: Full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.
2. Exterior-Mounted Units: Full-guarded, standard-duty, surface-mounted, weatherproof type, NEMA ICS 6, Type 4 enclosure, key operated.
3. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
4. 24 volt circuit.
5. Surface mounted, at interior and exterior locations as indicated on the plans or as follows:
    a. Wall Mounted: Operator is mounted to the inside front wall on the left or right side of door and connected to door drive shaft with drive chain and sprockets. Side room is required for this type of mounting. Wall-mounted operator can also be mounted above or below shaft; if above shaft, headroom is required.
6. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
    a. Primary Device: Provide electric sensing edge or NEMA 1 photo eye sensors as required with momentary-contact control device.
7. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.

D. Obstruction-Detection Devices: External entrapment protection consisting of indicated automatic safety sensor capable of protecting full width of door opening. For non-fire-rated doors, activation of device immediately stops and reverses downward door travel.
1. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.
    a. Self-Monitoring Type: Designed to interface with door operator control circuit to detect damage to or disconnection of sensing device. When self-monitoring feature is activated, door closes only with sustained or constant pressure on close button.
2. Safety Edge: Located at bottom of coiling door, full width, electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object, hollow neoprene covered.
    a. Sensor Edge Color: Black.

E. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed 25 lbf.

F. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from f loor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

G. Motor Removal: Design operator so motor may be removed without disturbing limit -switch adjustment and without affecting emergency manual operation.

2.6 COUNTERBALANCE MECHANISM

A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, seamless carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of slats and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

C. Counterbalance Spring: One or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Secure ends of springs to barrel and shaft with cast-steel barrel plugs.

D. Torsion Rod for Counterbalance Shaft: Fabricate of manufacturer's standard cold-rolled steel, sized to hold fixed spring ends and carry torsional load.

E. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold -rolled steel plate.

2.7 FINISH REQUIREMENTS

A. Comply with NAAMM AMP 500-06 for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Aluminum Finishes:
   1. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that adjacent construction is suitable for door installation.

B. Verify that electrical services have been installed and are accessible.

C. Verify that door opening is plumb, header is level, and dimensions are correct.

D. Notify Architect of any unacceptable conditions or varying dimensions.

E. Commencement of installation indicates acceptance of substrate and door opening conditions.

F. Examine substrates areas and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

G. Examine locations of electrical connections.

H. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Install overhead coiling doors, hoods, controls, and operators at the mounting locations indicated for each door.

C. Install units in accordance with manufacturer's instructions.

D. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

E. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

F. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

G. Coordinate installation of electrical service with Section 260583.

H. Complete wiring from disconnect to unit components.

I. Accessibility: Install overhead coiling doors, switches, and controls along accessible routes in compliance with the accessibility standard.

J. Power-Operated Doors: Install automatic garage doors openers according to UL 325.

K. Install enclosure and perimeter trim.

3.3 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation From Plumb: 1/16 inch.

C. Maximum Variation From Level: 1/16 inch.

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 feet straight edge.

3.4 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.
   1. Complete installation and startup checks according to manufacturer's written instructions.
   2. After electrical circuitry has been energized, operate doors to confirm proper motor rotation and door performance.
   3. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.

3.5 ADJUSTING

A. Adjust operating assemblies for smooth and noiseless operation.

B. Adjust hardware and moving parts to function smoothly so that doors operate easily, f ree of warp, twist, or distortion.

C. Adjust exterior doors and components to be weather resistant.

D. Lubricate bearings and sliding parts as recommended by manufacturer.

E. Adjust seals to provide tight fit around entire perimeter.

3.6 CLEANING

A. Clean installed components.

B. Remove labels and visible markings.

END OF SECTION 083323

SECTION 083613 - SECTIONAL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Overhead sectional doors, electrically operated.

B. Operating hardware and supports.

C. Electrical controls.

1.2 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Steel channel opening frame.

B. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.

C. Section 087100 - Door Hardware: Lock cylinders.

D. Section 088000 - Glazing: Factory-applied glazing in sectional doors.

E. Section 260583 - Wiring Connections.

1.3 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

B. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.

C. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

D. DASMA 102 - American National Standard Specifications for Sectional Doors.

E. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts.

F. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

G. NFPA 70 - National Electrical Code.

H. UL (DIR) - Online Certifications Directory.

I. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.

1.4 SUBMITTALS

A. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

B. Product Data: Show component construction, anchorage method, and hardware.

C. Manufacturer's qualification statement.

D. Installer's qualification statement.

E. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years documented experience.

C. Comply with applicable code for motor and motor control requirements.

D. Products Requiring Electrical Connection: Listed and classified by UL (DIR), as suitable for purpose specified.

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals for warranty requirements.

B. Extended Correction Period: Correct defective work within a 2-year period commencing on Date of Substantial Completion.

C. Manufacturer Warranty: Provide 5-year manufacturer warranty for electric operating equipment. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Sectional Doors:
1. Basis of Design: Clopay; Architectural Series: www.clopaydoor.com.
2. Wayne-Dalton, a Division of Overhead Door Corporation: www.wayne-dalton.com.
3. Overhead Door Corp; www.overheaddoorcorp.com.
4. Substitutions: See Section 016000 - Product Requirements.

2.2 PERFORMANCE REQUIREMENTS

2.3 ALUMINUM DOORS

A. Aluminum Doors: Stile and rail aluminum with glazed panels; standard lift operating style with track and hardware; complying with DASMA 102, Commercial application.
1. Door Nominal Thickness: 2 inches thick.
2. Finish: Factory finished with acrylic baked enamel; color as selected by Architect.
3. Glazed Lights: Full panel width, each row; set in place with resilient glazing channel.

a. Glazing: Fully tempered glass; insulated glass units; tinted; 1/8 inch overall thickness.
   1) As specified in Section 088000 - Glazing.

4. Electric Operation: Electric control station.

2.4 COMPONENTS

A. Track: Rolled galvanized steel, 0.090 inch minimum thickness; 2 inch wide, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick.

B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of stainless steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.

C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables.

D. Sill Weatherstripping: Resilient hollow neoprene strip, one piece; fitted to bottom of door panel, full length contact.

E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.

F. Head Weatherstripping: EPDM rubber seal, one piece full length.

G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

H. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle.

I. Lock Cylinders: See Section 087100.

2.5 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface.

B. Aluminum Extrusions: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

C. Float Glass: Provide float glass glazing, unless noted otherwise.
   1. Heat-Strengthened and Fully Tempered Types: ASTM C1048.
   2. Tinted Types: Color and performance characteristics as indicated.

2.6 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by UL (DIR).
   1. Provide interlock switches on motor operated units.
   2. Provide tamperproof operation cycle counter.

B. Electric Operators:
   1. Mounting: Side mounted on cross head shaft.
   2. Motor Enclosure:
   3. Motor Rating: 1/3 hp; continuous duty.

4. Motor Voltage: 120 volts, single phase, 60 Hz.
5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
6. Controller Enclosure: NEMA EN 10250, Type 1.
7. Opening Speed: 12 inches per second.
8. Brake: Adjustable friction clutch type, activated by motor controller.
9. Manual override in case of power failure.
10. See Section 260583 for electrical connections.

C. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated; enclose terminal lugs in terminal box sized to comply with NFPA 70.

D. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
1. 24 volt circuit.
2. Surface mounted, at interior door jamb.
3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.

E. Safety Edge: Located at bottom of sectional door panel, full width; electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

B. Verify that electric power is available and of the correct characteristics.

3.2 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

3.3 TOLERANCES

A. Maximum Variation from Plumb: 1/16 inch.

B. Maximum Variation from Level: 1/16 inch.

C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.

D. Maintain dimensional tolerances and alignment with adjacent work.

3.4 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weatherstripping.

B. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.5 CLEANING

A. Clean doors and frames and glazing.

B. Remove temporary labels and visible markings.

3.6 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

END OF SECTION 083613

SECTION 085113 - ALUMINUM WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Extruded aluminum windows with fixed sash, operating sash, and infill panels.

B. Factory glazing.

C. Operating hardware.

1.2 RELATED REQUIREMENTS

A. Section 072500 - Weather Barriers: Sealing frame to water-resistive barrier installed on adjacent construction.

B. Section 088000 - Glazing.

1.3 REFERENCE STANDARDS

A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights.

B. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site.

C. AAMA 611 - Specification for Anodized Architectural Aluminum.

D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).

E. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

F. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:
   1. Evidence of AAMA Certification.
   2. Evidence of WDMA Certification.

3. Evidence of CSA Certification.
4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

1.6 QUALITY ASSURANCE

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of AAMA CW-10.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.8 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

B. Maintain this minimum temperature during and 24 hours after installation of sealants.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Manufacturer Warranty: Provide 5-year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units. Complete forms in Owner's name and register with manufacturer.

D. Manufacturer Warranty: Provide 20-year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Aluminum Window Manufacturers:
1. Basis of Design: Winco Window Company, Inc; Series 3250: www.wincowindow.com.
2. Substitutions: See Section 016000 - Product Requirements.

2.2 ALUMINUM WINDOWS

A. Aluminum Windows: Extruded aluminum frame and sash, factory fabricated, factory finished, with operating hardware, related flashings, and anchorage and attachment devices.
1. Frame Depth: 3-1/2 inch.
2. Operable Units: Double weatherstripped.
3. Provide factory-glazed units.

4. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors; fasteners and attachments concealed from view; reinforced as required for operating hardware and imposed loads.
5. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
6. Movement: Accommodate movement between window and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
7. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
8. Thermal Movement: Design to accommodate thermal movement caused by 180 degrees F surface temperature without buckling stress on glass, joint seal failure, damaging loads on structural elements, damaging loads on fasteners, reduction in performance or other detrimental effects.

B. Fixed, Non-Operable Type:
1. Construction: Thermally broken.
2. Glazing: Double; clear; transparent.
3. Exterior Finish: Class I natural anodized.
4. Interior Finish: Class I natural anodized.

C. Outswinging Casement Type:
1. Construction: Thermally broken.
2. Glazing: Double; clear; transparent.
3. Exterior Finish: Class I natural anodized.
4. Interior Finish: Class I natural anodized.

2.3 PERFORMANCE REQUIREMENTS

A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:
1. Performance Class (PC): R.

2.4 COMPONENTS

A. Frames: Sizes, styles and configurations as indicated on the drawings.

B. Operable Sash Weatherstripping: Wool pile; permanently resilient, profiled to achieve effective weather seal.

C. Glazing Materials: See Section 088000.

D. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

2.5 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

2.6 HARDWARE

2.7 FINISHES

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41, clear anodic coating not less than 0.7 mil thick.

B. Superior Performing Organic Coatings System: Manufacturer's standard multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent polyvinylidene fluoride (PVDF) resin, and at least 80 percent of aluminum extrusion and panels surfaces having minimum total dry film thickness (DFT) of 1.2 mils, 0.0012 inch.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that wall openings and adjoining water-resistive barrier materials are ready to receive aluminum windows; see Section 072500.

3.2 PRIME WINDOW INSTALLATION

A. Install windows in accordance with manufacturer's instructions.

B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

D. Install sill and sill end angles.

E. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

F. Install operating hardware not pre-installed by manufacturer.

G. Install glass and infill panels in accordance with requirements; see Section 088000.

3.3 TOLERANCES

A. Maximum Variation from Level or Plumb: 1/16 inches every 3 ft non-cumulative or 1/8 inches per 10 ft, whichever is less.

3.4 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

END OF SECTION 085113

SECTION 088000 - GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Insulating glass units.

1.2 RELATED REQUIREMENTS

A. Section 079200 - Joint Sealants: Sealants for other than glazing purposes.

B. Section 083613 - Sectional Doors: Glazed lites in doors.

C. Section 085113 - Aluminum Windows: Glazing in manufactured windows.

1.3 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials.

B. ASTM C1036 - Standard Specification for Flat Glass.

C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants.

E. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass.

F. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings.

G. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.

H. BS EN 14179-1 - Glass in Building - Heat Soaked Thermally Toughened Soda Lime Silicate Safety Glass - Part 1: Definition and Description.

I. GANA (SM) - GANA Sealant Manual.

J. ITS (DIR) - Directory of Listed Products.

K. NFRC 100 - Procedure for Determining Fenestration Product U-factors.

L. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.

M. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems.

N. UL (DIR) - Online Certifications Directory.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data on Insulating Glass Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Samples: Submit two samples 12 by ___inch in size of glass units.

D. Manufacturer's qualification statement.

E. Installer's qualification statement.

F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
   1. Provide certified glass products through ANSI accredited certifications that include plant audits and independent laboratory performance testing.
      a. Insulating Glass Certification Council (IGCC).
      b. Safety Glazing Certification Council (SGCC).

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.6 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F.

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.7 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including providing products to replace failed units.

C. Heat Soaked Tempered Glass: Provide a five (5) year manufacturer warranty to include coverage for spontaneous breakage of fully tempered glass caused by nickel sulfide (NiS) inclusions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Float Glass Manufacturers:

1. Basis of Design: Vitro Architectural Glass (formerly PPG Glass); Solarban 60 (2): www.vitroglazings.com.
2. Cardinal Glass Industries: www.cardinalcorp.com.
3. Guardian Glass, LLC: www.guardianglass.com.
4. Substitutions: See Section 016000 - Product Requirements.

2.2 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
3. Glass thicknesses listed are minimum.

B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
1. In conjunction with weather barrier related materials described in other sections, as follows:

C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
3. Solar Optical Properties: Comply with NFRC 300 test method.

2.3 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
2. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
3. Heat-Soak Testing (HST): Provide HST of fully tempered glass used on sectional aluminum doors applications of project, to reduce risks of spontaneous breakage due to nickel sulfide (NiS) induced fractures in accordance with BS EN 14179-1.
4. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality - Q3, with color and performance characteristics as indicated.
5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

2.4 INSULATING GLASS UNITS

A. Manufacturers:
1. Cardinal Glass Industries: www.cardinalcorp.com.
2. Guardian Glass, LLC: www.guardianglass.com.
3. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com.

B. Insulating Glass Units: Types as indicated.
   1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
   3. Metal-Edge Spacers: Aluminum, bent and soldered corners.
   4. Spacer Color: Black.
   5. Edge Seal:
      a. Manufacturer's standard.
      b. Color: Black.
   6. Purge interpane space with dry air, hermetically sealed.

C. Type G1 - Insulating Glass Units: Vision glass, double glazed.
   1. Applications: Exterior glazing in aluminum windows and aluminum sectional doors.
   2. Space between lites filled with argon.
   3. Outboard Lite: Annealed float glass or fully tempered float glass as required by code, 1/4 inch thick, minimum.
      a. Tint: Blue.
      b. Coating: Low-E (passive type), on #2 surface.
   4. Inboard Lite: Annealed float glass or fully tempered float glass as required by code float glass, 1/4 inch thick, minimum.
      a. Tint: Clear.
   5. Total Thickness: 1 inch.
   6. Thermal Transmittance (U-Value), Winter - Center of Glass: 0.29, nominal.
   7. Visible Light Transmittance (VLT): 70 percent, nominal.
   8. Solar Heat Gain Coefficient (SHGC): 0.39, nominal.
   9. Visible Light Reflectance, Outside: 11 percent, nominal.

PART 3 EXECUTION

3.1 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that the minimum required face and edge clearances are being provided.

C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

D. Verify that sealing between joints of glass framing members has been completed effectively.

E. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.3 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.

D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.

E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

F. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, and paint.

3.4 INSTALLATION - GLAZING METHOD

A. Use manufacturer's standard method for aluminum windows

B. Use manufacturer's standard method for sectional aluminum doors.

3.5 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.6 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION 088000

SECTION 089100 - LOUVERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Louvers, frames, and accessories.

1.2 RELATED REQUIREMENTS

A. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.

1.3 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).

B. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating.

C. AMCA 511 - Certified Ratings Program for Air Control Devices.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.

C. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, and tolerances; head, jamb and sill details; blade configuration, screens, blank-off areas required, and frames.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of experience.

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Provide five year manufacturer's warranty against distortion, metal degradation, and connection failures of louver components.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Louvers:
1. Basis of Design: Greenheck Fan Corporation: www.greenheck.com.
2. Airolite Company, LLC: www.airolite.com.
3. Construction Specialties, Inc: www.c-sgroup.com.
4. Ruskin: www.ruskin.com.
5. Substitutions: See Section 016000 - Product Requirements.

2.2 LOUVERS

A. Louvers: Factory fabricated and assembled, complete with frame, mullions, and accessories; AMCA Certified in accordance with AMCA 511.
1. Wind Load Resistance: Design to resist positive and negative wind load of 25 psf without damage or permanent deformation.
2. Intake Louvers: Design to allow maximum of 0.01 oz/sq ft water penetration at calculated intake design velocity based on design air flow and actual free area, when tested in accordance with AMCA 500-L.
3. Drainable Blades: Continuous rain stop at front or rear of blade aligned with vertical gutter recessed into both jambs of frame.
4. Screens: Provide insect screens at intake louvers and bird screens at exhaust louvers.

B. Stationary Louvers: Horizontal blade, extruded aluminum construction.
1. Free Area: 50 percent, minimum.
2. Blades: Straight.
3. Frame: 4 inches deep, channel profile; corner joints mitered and , with continuous recessed caulking channel each side.
4. Aluminum Thickness: Frame 12 gauge, 0.0808 inch minimum; blades 12 gauge, 0.0808 inch minimum.
5. Aluminum Finish: High performance organic coatings.
6. Products:
a. Basis of Design: Greenheck ESD-403; www.greenheck.com.

2.3 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

2.4 FINISHES

A. High Performance Organic Coatings: AAMA 2604; multiple coats, thermally cured fluoropolymer system.

2.5 ACCESSORIES

A. Screens: Frame of same material as louver, with reinforced corners; removable, screw attached; installed on inside face of louver frame.

B. Bird Screen: Interwoven wire mesh of steel, 14 gauge, 0.0641 inch diameter wire, 1/2 inch open weave, diagonal design.

C. Insect Screen: 18 x 16 size aluminum mesh.

D. Fasteners and Anchors: Stainless steel.

E. Flashings: Of same material as louver frame, formed to required shape, single length in one piece per location.

F. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that prepared openings and flashings are ready to receive this work and opening dimensions are as indicated on shop drawings.

3.2 INSTALLATION

A. Install louver assembly in accordance with manufacturer's instructions.

B. Install louvers level and plumb.

C. Set sill members and sill flashing in continuous bead of sealant.

D. Install flashings and align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.

E. Secure louver frames in openings with concealed fasteners.

F. Coordinate with installation of mechanical ductwork.

3.3 CLEANING

A. Strip protective finish coverings.

B. Clean surfaces and components.

END OF SECTION 089100

SECTION 099005 - SURFACE PREPARATION FOR PAINTING AND COATING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Basis surface preparation for painting and coatings.

1.2 RELATED REQUIREMENTS

A. Section 099113 - Exterior Painting.

B. Section 099123 - Interior Painting.

C. Section 099602 - High-Performance Coatings.

1.3 REFERENCE STANDARDS

A. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test.

B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating.

C. ASTM D4259 - Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application.

D. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete.

E. ASTM D4261 - Standard Practice for Surface Cleaning Concrete Masonry Units for Coating.

F. ASTM D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.

G. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

H. SSPC-SP 1 - Solvent Cleaning.

I. SSPC-SP 2 - Hand Tool Cleaning.

J. SSPC-SP 13/NACE No.6 - Surface Preparation of Concrete.

K. SSPC-SP 16 - Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting:

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category.
   2. Manufacturer's installation instructions.
   3. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.

C. Certificate: Certify products of this section meet or exceed specified requirements.

D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.6 QUALITY ASSURANCE

A. Maintain one copy of each referenced document that applies to application on site.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with minimum 3 years of documented experience.

C. Applicator Qualifications: Company specializing in performing work of type specified, with minimum 3 years of documented experience.

D. Documents at Project Site: Maintain at project site one copy of manufacturer's instructions and reference standard documents containing execution requirements.

E. Source Limitations:
   1. Obtain chemical products in this section from a single manufacturer to insure product compatibility.
   2. Accessories may be obtained from any appropriate sour

1.7 MOCK-UPS

A. See Section 014000 - Quality Requirements for additional requirements.

B. Complete a mock-up of each surface preparation type and substrate, 8 feet long by 8 feet wide, indicating results to be anticipated from each condition.

C. Locate where directed by Architect.

D. Mock-up may remain as part of work.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, and instructions for mixing and reducing.

C. Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions. Store materials under cover and elevated above grade.

1.9 FIELD CONDITIONS

A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

B. Do not perform exterior work during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.

C. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.

D. Restrict traffic from area where work is being performed.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Surface Preparation Materials
1. Basis of Design: Prosoco, Inc.: www.prosoco.com.
2. Diedrich Technologies, Inc.: www.diedrichtechnologies.com.
3. Substitutions: See Section 016000 - Product Requirements.

2.2 MATERIALS

A. Concrete/Masonry Cleaner:
1. Basis of Design: Prosoco, Inc.; Prosoco Sure Klean Light Duty Concrete Cleaner: www.prosoco.com.
2. Properties:
a. Description: Non-etching acidic cleaner.
b. Form: Clear, colorless liquid with slight odor.
c. pH: 1:14 at 1:2 dilution; 1:28 at 1:6 dilution.

B. Paint Remover:
1. Basis of Design: Prosoco, Inc.; Prosoco Enviro Klean Safstrip 8: www.prosoco.com.
2. Properties:
a. Description: Neutral-pH stripping compound
b. Form: Clear, colorless gel.
c. pH: 8.02.

2.3 ACCESSORIES

A. Application Accessories for Concrete/Masonry Cleaner:
1. Application: Solvent-resistant brushes and rollers.
2. Rinsing: Interior Locations:
a. Bucket and solvent-resistant brush.

B. Application Accessories for Paint Remover:
1. Application: Solvent-resistant brushes and rollers for application.
2. Rinsing: Exterior Locations ONLY:
a. Masonry-washing equipment generating 400–1000 psi with a water flow rate of 6–8 gallons per minute.

b. Bucket and solvent-resistant brush.

3. Rinsing: Interior Locations:
   a. Bucket and solvent-resistant brush.

C. Protection Accessories:
   1. Polyethylene plastic sheeting to protect existing electrical equipment that must remain in operation during construction..
   2. Ventilation equipment as required to ventilate existing electrical equipment that must remain in operation during construction.

PART 3 EXECUTION

3.1 GENERAL

A. Exisiting electrical equipment is to be protected during all construction activities. Equipment is to be protected from:
   1. Moisture
   2. Debris
   3. Dust and other airborne particles
   4. Any other item or activity that inhibits the full-functional capabilities of the facility and the equipment within.

3.2 CONCRETE/MASONRY CLEANING

A. Application - General:
   1. Before applying, read “Preparation” and “Safety Information” sections in the Manufacturer’s Product Data Sheet.
   2. Dilute cleaner in accordance with the manufacturer's written instructionsd.

B. Exterior Applications:
   1. Working from the bottom to the top, always prewet surface with fresh water. When cleaning vertical surfaces, keep lower areas wet to avoid streaks.
   2. Apply diluted cleaning solution directly to surface with recommended masony brush or low-pressure spray.
   3. Let cleaner stay on the surface for 3 to 5 minutes or until stains are gone. Do not allow cleaner to dry on the surface; staining may result. If drying occurs, lightly wet treated surfaces with fresh water and reapply in a gentle scrubbing manner. If treated surfaces are left unattended, keep people away from the cleaner.
   4. Working from the bottom to the top, reapply cleaner and rinse thoroughly with fresh water to get all residues off the surface. If pressure-rinsing equipment is not available, brush the surface while rinsing with clean water. The best combination of rinsing pressure and water volume is provided by masonry washing equipment generating 400-1000 psi with a water flow rate of 6 to 8 gallons per minute delivered through a 15 to 45 degree fan spray tip. Equipment should be adjustable to reduce water flow rate and rinsing pressure as required for controlled cleaning of more sensitive surfaces.
   5. Use only enough water to remove the spent cleaner and dissolved soiling from the surface.
   6. For manufactured stone, if tests show that pressure rinsing equipment can be used without removing color, do not exceed 400 psi.

C. Interior Applications:
   1. Working from the bottom to the top, always prewet surface with fresh water. When cleaning vertical surfaces, keep lower areas wet to avoid streaks.
   2. Apply diluted cleaning solution directly to surface with recommended masony brush or low-pressure spray.
   3. Let cleaner stay on the surface for 3 to 5 minutes or until stains are gone. Do not allow cleaner to dry on the surface; staining may result. If drying occurs, lightly wet treated surfaces with fresh water and reapply in a gentle scrubbing manner. If treated surfaces are left unattended, keep people away from the cleaner.
   4. Working from the bottom to the top, reapply cleaner and rinse thoroughly with fresh water to get all residues off the surface. Brush the surface while rinsing with clean water.
   5. Use only enough water to remove the spent cleaner and dissolved soiling from the surface.

D. Cleanup:
   1. Clean tools and equipment using fresh water.

3.3 PAINT REMOVAL

A. Application - General:
   1. Before applying, read “Preparation” and “Safety Information” sections in the Manufacturer’s Product Data Sheet.
   2. Do not dilute or alter. Apply as packaged.

B. Exterior Applications:
   1. Working from the bottom to the top, apply paint 1/8 to 1/4 inch thick to dry surface.
   2. Let the application dwell 15 to 60 minutes or until coating “lifts” or shows signs of dissolving. Periodic agitation with a stiff bristle brush improves penetration. Some coatings will need multiple applications/increased dwell time.
   3. Working from the bottom to the top, remove stripper and residue with pressure-water rinse. Heated water may improve stripping efficiency.
   4. Clean the stripped surface with the appropriate product.

C. Interior Applications:
   1. Working from the bottom to the top, apply paint remo 1/8 to 1/4 inch thick to dry surface.
   2. Let the application dwell 15 to 60 minutes or until coating “lifts” or shows signs of dissolving. Periodic agitation with a stiff bristle brush improves penetration. Some coatings will need multiple applications/increased dwell time.
   3. Using a low-pressure tank or pump-up sprayer, mist the treated surface with clean water. Water helps emulsify the old sealer and dilute the stripper so residues may be more easily picked up.
   4. Using a power-scrubber or buffer with an abrasive, nonmetallic scrubbing pad for floors, or stiff-bristled brush for walls, scrub the surface until coatings are gone. Add more water to aid scrubbing. Ventilate to prevent accumulation of combustible vapors.
   5. Use towels, mops or wet vacs to collect liquid residue. Locate wet vac motor outdoors well away from application site in a high area where vapors will not collect.
   6. Thoroughly brush or mop-and-bucket rinse with clean water. If needed, clean surface with appropriate product.

D. Cleanup:

1. Clean tools and equipment with water before product dries. Otherwise, use high-flash aromatic naphtha or similar solvent.

3.4 SURFACE PREPARATION

A. Prepare each type of surface as follows:
   1. Aluminum: Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP 1, Solvent Cleaning.
   2. Block (Cinder and Concrete): Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 28 days at 75°F. The pH of the surface should be between 6 and 9. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound (per ASTM D4261).
   3. Concrete and Masonry (Exterior or Interior): The preparation of new concrete surfaces is as important as the surface preparation of steel. The following precautions will help assure maximum performance of the coating system and satisfactory coating adhesion:
      a. Cure – Concrete must be cured prior to coating. Cured is generally defined as concrete poured and aged at a material temperature of at least 75°F for at least 28 days unless specified products are designed for earlier application.
      b. Moisture – Reference ASTM F1869 Moisture Test by use of Calcium Chloride or ASTM D4263 Plastic Sheet Method Concrete must be free from moisture as much as possible (it seldom falls below 15%). Vapor pressures, temperature, humidity, differentials, and hydrostatic pressures can cause coatings to prematurely fail. The source of moisture, if present, must be located, and the cause corrected prior to coating.
      c. Temperature – Air, surface and material temperatures must be in keeping with requirements for the selected product during and after coating application, until coating is cured.
      d. Contamination – Remove all grease, dirt, paint, oil, laitance, efflorescence, loose mortar, and cement by the recommendations listed in the surface preparation section.
      e. Surface Condition – Hollow areas, bug holes, voids, honeycombs, fin form marks, and all protrusions or rough edges are to be ground or stoned to provide a continuous surface of suitable texture for proper adhesion of the coating. Imperfections may require filling, as specified.
      f. Concrete Treatment – Hardeners, sealers, form release agents, curing compounds, and other concrete treatments should be removed to ensure adequate coating adhesion and performance.
      g. Methods of Surface Preparation on Concrete per SSPC-SP 13/NACE No.6 or ICRI 03732 Surface Cleaning Methods:
         1) Vacuum cleaning, air blast cleaning, and water cleaning per ASTM D4258. Used to remove dirt, loose material, and/or dust from concrete.
         2) Detergent water cleaning and steam cleaning per ASTM D4258. Used to remove oils and grease from concrete. Prior to abrasive cleaning, and after abrasive cleaning, surfaces should be cleaned by one of the methods described above.
      h. Mechanical Surface Preparation Methods:

1) Dry abrasive blasting, wet abrasive blasting, vacuum assisted abrasive blasting, and centrifugal shot abrasive blasting per ASTM D4259. Used to remove contaminants, laitance, and weak concrete, to expose subsurface voids, and to produce a sound concrete surface with adequate profile and surface porosity.
2) High-pressure water cleaning or water jetting per SSPC-SP12-NACE5. Used to remove contaminants, laitance, and weak concrete, to expose subsurface voids, and to produce a sound concrete surface with adequate profile and surface porosity.
3) Impact tool methods per ASTM D4259. Used to remove existing coatings, laitance, and weak concrete. Methods include scarifying, planing, scabbling, and rotary peening. Impact tools may fracture concrete surfaces or cause microcracking requiring surface repair.
4) Power tool methods per ASTM D4259. Used to remove existing coatings, laitance, weak concrete, and protrusions in concrete. Methods include circular grinding, sanding, and wire brushing. These methods may not produce the required surface profile to ensure adequate adhesion of subsequent coatings.

i. Chemical Surface Preparation Methods:
1) Acid etching per ASTM D4260. Use to remove some surface contaminants, laitance, and weak concrete, and to provide a surface profile on horizontal concrete surfaces. This method requires complete removal of all reaction products and pH testing to ensure neutralization of the acid. Not recommended for vertical surfaces. Etching with hydrochloric acid shall not be used where corrosion of metal in the concrete is likely to occur. Adequate ventilation and safety equipment required.
a) Clean surface per ASTM D4258.
b) Wet surface with clean water
c) Etch with 10-15% muriatic acid solution at the rate of 1 gallon per 75 square feet
d) Scrub with stiff brush
e) Allow sufficient time for scrubbing and until bubbling stops
f) If no bubbling occurs, surface is contaminated. Refer to ASTM D4258 or ASTM D4259.
g) Rinse surface two or three times. Remove acid/water each time.
h) Surface should a texture similar to medium grit sandpaper.
i) Neutralize surface with a 3% solution of tri-sodium phosphate and flush with clean water.
j) Allow to dry and check for excess moisture.

4. Cement Composition Siding/Panels: Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Pressure clean, if needed, with a minimum of 2100 psi pressure to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. If the surface is new, test it for pH, many times the pH may be 10 or higher.
5. Copper: Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP 2, Hand Tool Cleaning.

6. Galvanized Metal: Allow to weather a minimum of 6 months prior to coating. Clean per SSPC-SP 1 using detergent and water or a degreasing cleaner, then prime as required. When weathering is not possible or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP 1 and apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP 16 is necessary to remove these treatments.
7. Steel: Remove rust from steel elements using wire brushing (interior and exterior locations) or abrasive blasting (exterior locations only).
8. Previously Coated Surfaces: Maintenance painting will frequently not permit or require complete removal of all old coatings prior to repainting. However, all surface contamination such as oil, grease, loose paint, mill scale dirt, foreign matter, rust, mold, mildew, mortar, efflorescence, and sealers must be removed to assure sound bonding to the tightly adhering old paint. Glossy surfaces of old paint films must be clean and dull before repainting. Thorough washing with an abrasive cleanser will clean and dull in one operation, or, wash thoroughly and dull by sanding. Spot prime any bare areas with an appropriate primer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system. Check for compatibility by applying a test patch of the recommended coating system, covering at least 2 to 3 square feet. Allow to dry one week before testing adhesion per ASTM D3359. If the coating system is incompatible, complete removal is required per ASTM D4259.

3.5 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

END OF SECTION 099005

SECTION 099113 - EXTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Exposed surfaces of steel lintels and ledge angles.
   3. Exterior concrete masonry unit walls.
   4. Exterior exposed steel components.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Glass.
   7. Concealed pipes, ducts, and conduits.

1.2 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting.

1.3 REFERENCE STANDARDS

A. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual.

B. SSPC-SP 1 - Solvent Cleaning.

C. SSPC-SP 2 - Hand Tool Cleaning.

D. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
3. Manufacturer's installation instructions.

C. Manufacturer's Instructions: Indicate special surface preparation procedures.

D. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
3. Label each container with color in addition to the manufacturer's label.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years experience and approved by manufacturer.

1.6 MOCK-UPS

A. See Section 014000 - Quality Requirements, for general requirements for mock-up.

B. Locate where directed by Architect.

C. Mock-up may remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.8 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the paint product manufacturer's temperature ranges.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior paint and finishes during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Paints:
1. Base Manufacturer: Sherwin Williams Company.
2. Benjamin Moore & Co.: www.benjaminmoore.com.
3. Pittsburgh Paints: www.pittsburghpaintsco.com.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless required to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is described explicitly in manufacturer's product instructions.

B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

C. Colors: As indicated on drawings.
1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.

2.3 PAINT SYSTEMS - EXTERIOR

A. Paint E-OP-MD-DT Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including primed metal.
1. Two top coats and one coat primer.
2. Top Coat(s): Exterior Light Industrial Coating, Water Based; MPI #161, 163, or 164.
a. Products:
1) Basis of Design: Sherwin-Williams Pro Industrial Acrylic Coating, Semi-Gloss.

2) Benjamin Moore & Co.Ultra Spec HP DTM Acrylic Enamel, Semi-Gloss.
3) Pittsburgh Paints Pitt-Tech Plus EP DTM Industrial Enamel, 90-1610 Series, Semi-Gloss. (MPI #163)

3. Top Coat Sheen:
   a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.
4. Primer: As recommended by top coat manufacturer for specific substrate.

2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
   1. Water Based Primer for Galvanized Metal.
      a. Products:
         1) Basis of Design: Sherwin-Williams DTM Primer/Finish.
         2) Benjamin Moore & Co. Ultra Spec HP DTM Acrylic Enamel.
         3) Pittsburgh Paints Pitt-Tech Plus EP DTM Industrial Primer, 90-1912 Series.
         4) Substitutions: See Section 016000 - Product Requirements

2.5 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Galvanized Surfaces:
   1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
   2. Prepare surface according to SSPC-SP 2.

G. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
   3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE No.3. Protect from corrosion until coated.

H. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

A. Apply products in accordance with manufacturer's written instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance.

D. Sand metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection.

3.5 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:
1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
2. Items indicated to receive other finishes.
3. Items indicated to remain unfinished.
4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
6. Marble, granite, slate, and other natural stones.
7. Floors, unless specifically indicated.
8. Glass.
9. Concealed pipes, ducts, and conduits.
10. Concrete masonry unit walls.
11. Steel wall panels.

1.2 RELATED REQUIREMENTS

A. Section 099602 - High-Performance Coatings.

1.3 REFERENCE STANDARDS

A. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual.

B. SSPC-SP 1 - Solvent Cleaning.

C. SSPC-SP 2 - Hand Tool Cleaning.

D. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
2. Cross-reference to specified paint system products to be used in project; include description of each system.
3. Manufacturer's installation instructions.

C. Manufacturer's Instructions: Indicate special surface preparation procedures.

D. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Paint and Finish Materials: 1 gal of each color; from the same product run, store where directed.
3. Label each container with color in addition to the manufacturer's label.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years experience and approved by manufacturer.

1.6 MOCK-UP

A. See Section 014000 - Quality Requirements, for general requirements for mock-up.

B. Locate where directed by Architect.

C. Mock-up may remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.8 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.

D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 fc measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
1. Base Manufacturer: Sherwin-Williams Company.
2. Benjamin Moore & Co.: www.benjaminmoore.com.
3. Pittsburgh Paints: www.pittsburghpaintsco.com.

C. Primer Sealers: Same manufacturer as top coats.

D. Substitutions: See Section 016000 - Product Requirements.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

C. Colors: As indicated on drawings.
1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.

2.3 PAINT SYSTEMS - INTERIOR

A. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals:
   1. Medium duty applications include doors and door frames.
   2. Two top coats and one coat primer.
   3. Top Coat(s): Interior Light Industrial Coating, Water Based; MPI #151, 153, or 154.
      a. Products:
         1) Basis of Design: Sherwin-Williams Pro Industrial Acrylic Coating, Semi-Gloss.
         2) Benjamin Moore & Co.Ultra Spec HP DTM Acrylic Enamel, Semi-Gloss.
         3) Pittsburgh Paints Pitt-Tech Plus EP WB DTM Industrial Enamel. 90-1610 Series, Semi-Gloss. (MPI #153)
         4) Substitutions: See Section 016000 - Product Requirements
   4. Top Coat Sheen:
      a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.
   5. Primer: As recommended by top coat manufacturer for specific substrate.

2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
   1. Interior Water Based Primer for Galvanized Metal.
      a. Products:
         1) Basis of Design: Sherwin-Williams DTM Primer/Finish.
         2) Benjamin Moore & Co. Ultra Spec HP DTM Acrylic Enamel.
         3) Pittsburgh Paints Pitt-Tech Plus EP DTM Industrial Primer, 90-1912 Series.
         4) Substitutions: See Section 016000 - Product Requirements

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Galvanized Surfaces:
   1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
   2. Prepare surface according to SSPC-SP 2.

G. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
   3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE No.3. Protect from corrosion until coated.

H. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

A. Apply products in accordance with manufacturer's written instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

D. Sand metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection.

3.5 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION 099123

SECTION 099602 - HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. High performance coatings.

B. Surface preparation.

1.2 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Requirements for hollow metal doors and frames.

1.3 REFERENCE STANDARDS

A. ASTM D1653 - Standard Test Methods for Water Vapor Transmission of Organic Coating Films.

B. ASTM D2486 - Standard Test Methods for Scrub Resistance of Wall Paints.

C. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test.

D. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test.

E. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating.

F. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
   3. Manufacturer's installation instructions.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

E. Maintenance Data: Include cleaning procedures and repair and patching techniques.

1.5 QUALITY ASSURANCE

A. Maintain one copy of each referenced document that applies to application on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

C. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.6 MOCK-UPS

A. See Section 014000 - Quality Requirements for general requirements for mock-ups.

B. Provide mock-up , 8 feet long by 8 feet wide, illustrating coating , for each specified coating.

C. Locate where directed.

D. Mock-up may remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.8 FIELD CONDITIONS

A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.

C. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.

D. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.

E. Restrict traffic from area where coating is being applied or is curing.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for bond to substrate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide high performance coating products from the same manufacturer as interior and exterior paints being provided.
   1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

B. High-Performance Coatings:
   1. Basis of Design: Sherwin-Williams Company: www.protective.sherwin-williams.com/industries.
   2. Pittsburgh Paints: www.ppgpaints.com.
   3. Substitutions: Section 016000 - Product Requirements.

2.2 HIGH-PERFORMANCE COATINGS

A. Provide coating systems that meet the following minimum performance criteria, unless more stringent criteria are specified:
   1. Hardness: 2B, when tested in accordance with ASTM D3363.
   2. Adhesion: 5B, when tested in accordance with ASTM D3359.
   3. Water Vapor Transmission: 14.51grains/(hr ft2 in Hg), when tested in accordance with ASTM D1653.
   4. Scrubbability: Excellent, when tested in accordance with ASTM D2486.
   5. Gloss and Color Retention: Excellent, when tested in accordance with _____.

2.3 TOP COAT MATERIALS

A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.

B. Latex Coating:
   1. Number of Coats: Two.
   2. Top Coat(s): Latex, Interior, High Performance Architectural.
      a. Sheen: Eggshell.
      b. Products:
         1) Basis of Design: Sherwin-Williams; Pro Industrial Pre-Catalyzed Waterbased Epoxy: www.protective.sherwin-williams.com
         2) Pittsburgh Paints; Pitt-Glaze WB1 High Performance Pre-Catalyzed Waterborne Epoxy, 16-1310 Series, Eggshell.: www.ppgpaints.com

C. Shellac: Pure, white type.

2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by coating manufacturer.
   1. Block Filler, Latex.
      a. Products:

1) Basis of Design: Sherwin-Williams; Pro Industrial Heavy Duty Block Filler: www.protective.sherwin-williams.com.
2) Pittsburgh Paints; Perma-Crete Concrete Block & Masonry Surfacer/Filler, 4-100XI: www.ppgpaints.com.

2.5 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Do not begin application of coatings until substrates have been properly prepared.

C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Cementitious Substrates: Do not begin application until substrate has cured 28 days minimum and measured moisture content is not greater than 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

3.2 PREPARATION

A. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.

B. Clean surfaces of loose foreign matter.

C. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.

D. Remove finish hardware, fixture covers, and accessories and store.

E. Existing Painted and Sealed Surfaces:
1. Remove loose, flaking, and peeling paint. Feather edge and sand smooth edges of chipped paint.
2. Clean with mixture of trisodium phosphate and water to remove surface grease and foreign matter.

F. Masonry:

1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
2. Prepare surface as recommended by coating manufacturer.

3.3 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Concrete: Prior to priming, patch with masonry filler to produce smooth surface.

C. Concrete Masonry: Apply masonry filler to thickness required to fill holes and produce smooth surface; minimum thickness of 30 mils.

3.4 COATING APPLICATION

A. PROTECT ADJACENT ELECTRICAL EQUIPMENT FROM SPATTER, OVERSPRAY, AND ALL COATING APPPLICATION ACTIVITIES.

B. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in MPI - Architectural Painting and Specification Manual.

C. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.5 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.6 PROTECTION

A. Protect finished work from damage.

END OF SECTION 099602

SECTION 21 05 17 - SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Sleeves
2. Grout
3. Silicone sealants

B. Related Sections:

1. Section 210518 “Escutcheons for Fire-Suppression Piping”
2. Section 210523 “General Duty Valves for Fire Protection Piping”
3. Section 210529 “Hangers and Supports for Fire Suppression Piping and Equipment”
4. Section 210553 “Identification for Fire-Suppression Piping and Equipment”
5. Section 211119 “Fire Department Connections”
6. Section 211313 “Wet-Pipe Sprinkler Systems”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 SLEEVES

A. Galvanized Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized, with plain ends and integral welded waterstop collar.

B. PVC Pipe Sleeves: ASTM D 1785, Schedule 40.

2.2 GROUT

A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Non-shrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

2.3 SILICONE SEALANTS

A. Silicone, S, NS, 25, NT: Single-component, non-sag, plus 25 percent and minus 25 percent movement capability, non-traffic use, neutral-curing silicone joint sealant, ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Dow Corning Corporation
b. GE Construction Sealants
c. Polymeric Systems, Inc.
d. Schnee-Morehead, Inc., an ITW Company
e. The Sherwin-Williams Company

B. Silicone, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic and non-traffic use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT. Grade P Pourable (self-leveling) formulation is for opening in floors and other horizontal surfaces that are not fire rated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. May National Associates, Inc., A subsidiary of Sika Corporation

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION

A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.

B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch annular clear space between piping and concrete slabs and walls.

1. Sleeves are not required for core-drilled holes in concrete.

C. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.

1. Permanent sleeves are not required for holes in slabs formed by molded-PE or -PP sleeves.
2. Cut sleeves to length for mounting flush with both surfaces.

a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level.

3. Using grout or silicone sealant, seal the space outside of sleeves in slabs and walls without sleeve-seal system.

D. Install sleeves for pipes passing through interior partitions.

1. Cut sleeves to length for mounting flush with both surfaces.
2. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe.
3. Seal annular space between sleeve and piping; use joint sealants appropriate for size, depth, and location of joint.

E. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with fire- and smoke-stop materials. Comply with requirements for firestopping and fill materials specified in Section 078413 "Penetration Firestopping."

3.2 SLEEVE-SEAL-SYSTEM INSTALLATION

A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.

B. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

3.3 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Leak Test: After allowing for a full cure, test sleeves and sleeve seals for leaks. Repair leaks and retest until no leaks exist.

B. Sleeves and sleeve seals will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.4 SLEEVE AND SLEEVE-SEAL SCHEDULE

A. Use sleeves and sleeve seals for the following piping-penetration applications:

1. Exterior Concrete Walls above Grade:

a. Piping Smaller Than NPS 6: Galvanized-steel pipe sleeves.

2. Interior Partitions:

   a. Piping Smaller Than NPS 6: Galvanized-steel-pipe sleeves or PVC pipe sleeves.

END OF SECTION 210517

SECTION 21 05 18 - ESCUTCHEONS FOR FIRE-SUPPRESSION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Escutcheons.

B. Related Sections:

1. Section 210517 “Sleeves and Sleeve Seals for Fire-Suppression Piping”
2. Section 210523 “General Duty Valves for Fire Protection Piping”
3. Section 210529 “Hangers and Supports for Fire Suppression Piping and Equipment”
4. Section 210553 “Identification for Fire-Suppression Piping and Equipment”
5. Section 211119 “Fire Department Connections”
6. Section 211313 “Wet-Pipe Sprinkler Systems”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. BrassCraft Manufacturing Co., A Masco company
2. Dearborn Brass
3. Jones Stephens Corp.
4. Keeney Manufacturing Company
5. Mid-America Fittings, Inc.
6. ProFlo; a Ferguson Enterprises, Inc. brand

2.2 ESCUTCHEONS

A. One-Piece, Cast-Brass Type: With polished, chrome-plated finish and setscrew fastener.

B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with chrome-plated finish and spring-clip fasteners.

C. One-Piece, Stamped-Steel Type: With chrome-plated finish and spring-clip fasteners.

D. Split-Plate, Stamped-Steel Type: With chrome-plated finish, concealed hinge, and spring-clip fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.

B. Install escutcheons with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.

1. Escutcheons for New Piping:

a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
b. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass type with polished, chrome-plated finish.
c. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece, cast-brass type with polished, chrome-plated finish.
d. Bare Piping in Unfinished Service Spaces: One-piece, cast-brass or split-casting brass type with chrome-plated finish.
e. Bare Piping in Equipment Rooms: One-piece, stamped-steel type or split-plate, stamped-steel type with concealed hinge.

3.2 FIELD QUALITY CONTROL

A. Replace broken and damaged escutcheons and floor plates using new materials.

END OF SECTION 210518

SECTION 21 05 23 - GENERAL-DUTY VALVES FOR WATER-BASED FIRE-SUPPRESSION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Two-piece ball valves with indicators.
2. Check valves.
3. Bronze OS&Y gate valves.
4. Iron OS&Y gate valves.
5. NRS gate valves.
6. Trim and drain valves.

B. Related Sections:

1. Section 210517 “Sleeves and Sleeve Seals for Fire-Suppression Piping”
2. Section 210518 “Escutcheons for Fire-Suppression Piping”
3. Section 210529 “Hangers and Supports for Fire Suppression Piping and Equipment”
4. Section 210553 “Identification for Fire-Suppression Piping and Equipment”
5. Section 211119 “Fire Department Connections”
6. Section 211313 “Wet-Pipe Sprinkler Systems”

1.3 DEFINITIONS

A. NBR: Acrylonitrile-butadiene, Buna-N, or nitrile rubber.

B. NRS: Non-rising stem.

C. OS&Y: Outside screw and yoke.

D. SBR: Styrene-butadiene rubber.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of valve.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooved ends, and weld ends.
3. Set valves open to minimize exposure of functional surfaces.

B. Use the following precautions during storage:

1. Maintain valve end protection.
2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use operating handles or stems as lifting or rigging points.

D. Protect flanges and specialties from moisture and dirt.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR VALVES

A. UL Listed: Valves shall be listed in UL's "Online Certifications Directory" under the headings listed below and shall bear UL mark:

1. Main Level: HAMV - Fire Main Equipment.

a. Level 1: HCBZ - Indicator Posts, Gate Valve.
b. Level 1: HLOT - Valves.

1) Level 3: HLUG - Ball Valves, System Control.
2) Level 3: HLXS - Butterfly Valves.
3) Level 3: HMER - Check Valves.
4) Level 3: HMRZ - Gate Valves.

2. Main Level: VDGT - Sprinkler System & Water Spray System Devices.

a. Level 1: VQGU - Valves, Trim and Drain.

B. FM Global Approved: Valves shall be listed in its "Approval Guide," under the headings listed below:

1. Automated Sprinkler Systems:

a. Indicator posts.
b. Valves.

1) Gate valves.
2) Check valves.

a) Single check valves.

3) Miscellaneous valves.

C. Source Limitations for Valves: Obtain valves for each valve type from single manufacturer.

D. ASME Compliance:

1. ASME B16.1 for flanges on iron valves.
2. ASME B1.20.1 for threads for threaded-end valves.
3. ASME B31.9 for building services piping valves.

E. AWWA Compliance: Comply with AWWA C606 for grooved-end connections.

F. NFPA Compliance: Comply with NFPA 24 for valves.

G. Valve Pressure Ratings: Not less than the minimum pressure rating indicated or higher as required by system pressures.

H. Valve Sizes: Same as upstream piping unless otherwise indicated.

I. Valve Actuator Types:

1. Worm-gear actuator with handwheel for quarter-turn valves, except for trim and drain valves.
2. Handwheel: For other than quarter-turn trim and drain valves.
3. Handlever: For quarter-turn trim and drain valves NPS 2 and smaller.

2.2 TWO-PIECE BALL VALVES WITH INDICATORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Globe Fire Sprinkler Company
2. NIBCO INC.
3. Victaulic Company.

B. Description:

1. UL 1091, except with ball instead of disc and FM Global standard for indicating valves (ball type), Class Number 1112.
2. Minimum Pressure Rating: 300 psig.
3. Body Design: Two piece.
4. Body Material: Forged brass or bronze.
5. Port Size: Full.
6. Seats: PTFE.
7. Stem: Bronze or stainless steel.
8. Ball: Chrome-plated brass.
9. Actuator: Weatherproof housing with worm gear or traveling nut.
10. Supervisory Switch: Internal or external.
11. End Connections for Valves NPS 1 through NPS 2: Threaded or grooved ends.
12. End Connections for Valves NPS 2-1/2: Grooved ends.

2.3 CHECK VALVES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Anvil International, Inc.
2. Globe Fire Sprinkler Company
3. NIBCO INC.
4. Reliable Automatic Sprinkler Co., Inc.
5. Tyco Fire & Building Products LP.
6. Victaulic Company.
7. Viking Corporation.
8. Watts Water Technologies, Inc.

B. Description:

1. Standard: UL 312 and FM Global standard for swing check valves, Class Number 1210.
2. Minimum Pressure Rating: 250 psig.
3. Type: Single swing or spring assisted check, suitable for vertical or horizontal installation.
4. Body Material: Cast iron, ductile iron, or bronze.
5. Clapper: Bronze, ductile iron, or stainless steel with elastomeric seal.
6. Clapper Seat: Brass, bronze, welded-in nickel, or stainless steel.
7. Hinge Shaft: Bronze or stainless steel.
8. Hinge Spring: Stainless steel.
9. End Connections: Flanged, grooved, or threaded.

2.4 BRONZE OS&Y GATE VALVES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Milwaukee Valve Company.
2. NIBCO INC.
3. United Brass Works, Inc.

B. Description:

1. Standard: UL 262 and FM Global standard for fire-service water control valves (OS&Y- and NRS-type gate valves).
2. Minimum Pressure Rating: 175 psig.
3. Body and Bonnet Material: Bronze or brass.
4. Wedge: One-piece bronze or brass.
5. Wedge Seat: Bronze.
6. Stem: Bronze or brass.
7. Packing: Non-asbestos PTFE.
8. Supervisory Switch: External.
9. End Connections: Threaded.

2.5 IRON OS&Y GATE VALVES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Globe Fire Sprinkler Company
2. Kennedy Valve; a division of McWane, Inc.
3. Mueller Co.; Water Products Division.
4. NIBCO INC.
5. Victaulic Company.
6. Watts Water Technologies, Inc.

B. Description:

1. Standard: UL 262 and FM Global standard for fire-service water control valves (OS&Y- and NRS-type gate valves).
2. Minimum Pressure Rating: 250 psig.
3. Body and Bonnet Material: Cast or ductile iron.
4. Wedge: Cast or ductile iron, or bronze with elastomeric coating.
5. Wedge Seat: Cast or ductile iron, or bronze with elastomeric coating.
6. Stem: Brass or bronze.
7. Packing: Non-asbestos PTFE.
8. Supervisory Switch: External.
9. End Connections: Flanged or Grooved.

2.6 NRS GATE VALVES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Globe Fire Sprinkler Company
2. Kennedy Valve; a division of McWane, Inc.
3. Mueller Co.; Water Products Division.
4. NIBCO INC.
5. Victaulic Company.

B. Description:

1. Standard: UL 262 and FM Global standard for fire-service water control valves (OS&Y- and NRS-type gate valves).
2. Minimum Pressure Rating: 250 psig.
3. Body and Bonnet Material: Cast or ductile iron.
4. Wedge: Cast or ductile iron with elastomeric coating.
5. Wedge Seat: Cast or ductile iron, or bronze with elastomeric coating.
6. Stem: Brass or bronze.
7. Packing: Non-asbestos PTFE.
8. Supervisory Switch: External.
9. End Connections: Flanged or Grooved.

2.7 TRIM AND DRAIN VALVES

A. Ball Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Fire Protection Products, Inc.
b. Globe Fire Sprinkler Company
c. Milwaukee Valve Company.
d. NIBCO INC.
e. Potter Roemer.
f. Tyco Fire & Building Products LP.
g. Victaulic Company.
h. Watts Water Technologies, Inc.

2. Description:

a. Pressure Rating: 175 psig
b. Body Design: Two piece.
c. Body Material: Forged brass or bronze.
d. Port size: Full.
e. Seats: PTFE.
f. Stem: Bronze or stainless steel.
g. Ball: Chrome-plated brass.
h. Actuator: Handlever.
i. End Connections for Valves NPS 1 through NPS 2-1/2: Threaded ends.
j. End Connections for Valves NPS 1-1/4 and NPS 2-1/2: Grooved ends.

B. Angle Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Fire Protection Products, Inc.
b. NIBCO INC.
c. United Brass Works, Inc.

2. Description:

a. Pressure Rating: 175 psig.
b. Body Material: Brass or bronze.
c. Ends: Threaded.
d. Stem: Bronze.
e. Disc: Bronze.
f. Packing: Asbestos free.
g. Handwheel: Malleable iron, bronze, or aluminum.

C. Globe Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. NIBCO INC.
    b. United Brass Works, Inc.

2. Description:

    a. Pressure Rating: 175 psig.
    b. Body Material: Bronze with integral seat and screw-in bonnet.
    c. Ends: Threaded.
    d. Stem: Bronze.
    e. Disc Holder and Nut: Bronze.
    f. Disc Seat: Nitrile.
    g. Packing: Asbestos free.
    h. Handwheel: Malleable iron, bronze, or aluminum.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.

B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.

C. Examine threads on valve and mating pipe for form and cleanliness.

D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.

E. Examine grooved ends for form and cleanliness. Ends shall be clean and free from indentations and projections in the area from valve end to (and including) the groove.

F. Do not attempt to repair defective valves; replace with new valves.

3.2 GENERAL REQUIREMENTS FOR VALVE INSTALLATION

A. Comply with requirements in the following Sections for specific valve installation requirements and applications:

1. Section 211313 "Wet-Pipe Sprinkler Systems" for application of valves in wet-pipe, fire-suppression sprinkler systems.

B. Install listed fire-protection shutoff valves supervised-open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.

C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.

D. Install valves having threaded connections with unions at each piece of equipment arranged to allow easy access, service, maintenance, and equipment removal without system shutdown. Provide separate support where necessary.

E. Install valves in horizontal piping with stem at or above the pipe center.

F. Install valves in position to allow full stem movement.

G. Butterfly valves are not acceptable for shut-off duty.

H. Install valve tags. Comply with requirements in Section 210553 "Identification for Fire-Suppression Piping and Equipment" for valve tags and schedules and signs on surfaces concealing valves; and the NFPA standard applying to the piping system in which valves are installed. Install permanent identification signs indicating the portion of system controlled by each valve.

END OF SECTION 210523

SECTION 21 05 29 - HANGERS AND SUPPORTS FOR FIRE SUPRESSION PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal pipe hangers and supports.
2. Fastener systems.
3. Equipment supports.

B. Related Sections:

1. Section 210517 “Sleeves and Sleeve Seals for Fire-Suppression Piping”
2. Section 210518 “Escutcheons for Fire-Suppression Piping”
3. Section 210523 “General Duty Valves for Fire Protection Piping”
4. Section 210553 “Identification for Fire-Suppression Piping and Equipment”
5. Section 211119 “Fire Department Connections”
6. Section 211313 “Wet-Pipe Sprinkler Systems”

C. Related Requirements:

1. Section 055000 "Metal Fabrications" for structural-steel shapes and plates for trapeze hangers for pipe and equipment supports.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details and include calculations for the following:

1. Metal framing systems.
2. Equipment supports.

1.4 INFORMATIONAL SUBMITTALS

A. Welding certificates.

1.5 QUALITY ASSURANCE

A. Structural-Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M.

B. Pipe Welding Qualifications: Qualify procedures and operators according to 2015 ASME Boiler and Pressure Vessel Code, Section IX.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design trapeze pipe hangers and equipment supports.

B. Structural Performance: Hangers and supports for fire-suppression piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.
2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.

C. NFPA Compliance: Comply with NFPA 13.

D. UL Compliance: Comply with UL 203.

2.2 METAL PIPE HANGERS AND SUPPORTS

A. Carbon-Steel Pipe Hangers and Supports:

1. Description: Factory-fabricated components, NFPA approved, UL listed, or FM approved for fire-suppression piping support.
2. Galvanized Metallic Coatings: Pre-galvanized or hot-dip galvanized.
3. Hanger Rods: Continuous-thread rod, nuts, and washer made of stainless steel.

2.3 FASTENER SYSTEMS

A. Powder-Actuated Fasteners: NFPA-approved, UL-listed, or FM-approved threaded-steel stud, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

B. Mechanical-Expansion Anchors: NFPA-approved, UL-listed, or FM-approved, insert-wedge-type anchors, for use in hardened portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

1. Indoor Applications: Zinc-coated or Stainless steel.

2. Outdoor Applications: Stainless steel.

2.4 EQUIPMENT SUPPORTS

A. Description: NFPA-approved, UL-listed, or FM-approved, welded, shop- or field-fabricated equipment support, made from structural-carbon-steel shapes.

2.5 MATERIALS

A. Aluminum: ASTM B 221.

B. Carbon Steel: ASTM A 1011/A 1011M.

C. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

D. Stainless Steel: ASTM A 240/A 240M.

E. Grout: ASTM C 1107/C 1107M, factory-mixed and -packaged, dry, hydraulic-cement, non-shrink, and nonmetallic grout, suitable for interior and exterior applications.

1. Properties: Non-staining, noncorrosive, and nongaseous.
2. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping materials and installation, for penetrations through fire-rated walls, ceilings, and assemblies.

B. Strength of Support Assemblies: Where not indicated, select sizes of components, so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.

3.2 HANGER AND SUPPORT INSTALLATION

A. Metal Pipe-Hanger Installation: Comply with installation requirements of approvals and listings. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.

B. Fastener System Installation:

1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches thick in concrete, after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners

according to powder-actuated tool manufacturer's operating manual. Install in accordance with approvals and listings.

2. Install mechanical-expansion anchors in concrete, after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions. Install in accordance with approvals and listings.

C. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

D. Equipment Support Installation: Fabricate from welded-structural-steel shapes.

E. Install lateral bracing with pipe hangers and supports to prevent swaying.

F. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

G. Load Distribution: Install hangers and supports, so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

H. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

3.3 EQUIPMENT SUPPORTS

A. Fabricate structural-steel stands to suspend equipment from structure overhead or to support equipment above floor.

B. Grouting: Place grout under supports for equipment and make bearing surface smooth.

C. Provide lateral bracing, to prevent swaying, for equipment supports.

3.4 METAL FABRICATIONS

A. Cut, drill, and fit miscellaneous metal fabrications for equipment supports.

B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.

C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.

4. Finish welds at exposed connections, so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.5 ADJUSTING

A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.6 PAINTING

A. Touchup: Clean field welds and abraded, shop-painted areas. Paint exposed areas immediately after erecting hangers and supports. Use same materials as those used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0.

B. Touchup: Cleaning and touchup painting of field welds, bolted connections, and abraded, shop-painted areas on miscellaneous metal are specified in Section 099123 "Interior Painting" and/or Section 099600 "High-Performance Coatings".

C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas, and apply galvanizing-repair paint to comply with ASTM A 780/A 780M.

3.7 HANGER AND SUPPORT SCHEDULE

A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.

B. Comply with NFPA requirements for pipe-hanger selections and applications that are not specified in piping system Sections.

C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finishes.

D. Use carbon-steel pipe hangers, supports and attachments for general service applications.

E. Horizontal-Piping Hangers and Supports: Comply with NFPA requirements. Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of non-insulated stationary pipes for sizes NPS 1/2 to NPS 30.
2. Steel Pipe Clamps (MSS Type 4): For suspension of non-insulated stationary pipes for sizes NPS 1/2 to NPS 24.
3. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of non-insulated, stationary pipes for sizes NPS 1/2 to NPS 8.

4. Extension Hinged or Two-Bolt Split Pipe Clamps (MSS Type 12): For suspension of non-insulated, stationary pipes for sizes NPS 3/8 to NPS 3.
5. U-Bolts (MSS Type 24): For support of heavy pipes for sizes NPS 1/2 to NPS 30.
6. Pipe Saddle Supports (MSS Type 36): For support of pipes for sizes NPS 4 to NPS 36, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
7. Pipe Stanchion Saddles (MSS Type 37): For support of pipes for sizes NPS 4 to NPS 36, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate, and with U-bolt to retain pipe.
8. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes for sizes NPS 2-1/2 to NPS 36 if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.

F. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers for sizes NPS 3/4 to NPS 24.
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers for sizes NPS 3/4 to NPS 24, if longer ends are required for riser clamps.

G. Hanger-Rod Attachments: Comply with NFPA requirements.

H. Building Attachments: Comply with NFPA requirements. Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel or Malleable-Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
2. C-Clamps (MSS Type 23): For structural shapes.
3. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.

I. Comply with NFPA requirements for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.

J. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

K. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.

END OF SECTION 210529

SECTION 21 05 53 - IDENTIFICATION FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Equipment labels.
2. Warning signs and labels.
3. Pipe labels.
4. Valve tags.
5. Warning tags.

B. Related Sections:

1. Section 210517 “Sleeves and Sleeve Seals for Fire-Suppression Piping”
2. Section 210518 “Escutcheons for Fire-Suppression Piping”
3. Section 210523 “General Duty Valves for Fire Protection Piping”
4. Section 210529 “Hangers and Supports for Fire Suppression Piping and Equipment”
5. Section 211119 “Fire Department Connections”
6. Section 211313 “Wet-Pipe Sprinkler Systems”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Equipment-Label Schedule: Include a listing of all equipment to be labeled and the proposed content for each label.

C. Valve Schedules: Valve numbering scheme.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each piping system to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Metal Labels for Equipment:

1. Material and Thickness: Stainless steel, 0.025-inch-thick, with predrilled holes for attachment hardware.
2. Letter Color: Black.
3. Background Color: Stainless Steel
4. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
5. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
6. Fasteners: Stainless-steel rivets or self-tapping screws.
7. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Label Content: Include equipment's Drawing designation or unique equipment number, drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.

C. Equipment-Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch bond paper. Tabulate equipment identification number and identify Drawing numbers where equipment is indicated (plans, details, and schedules) and the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

2.2 WARNING SIGNS AND LABELS

A. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/16-inch-thick, with predrilled holes for attachment hardware.

B. Letter Color: Black.

C. Background Color: Yellow.

D. Maximum Temperature: Able to withstand temperatures up to 160 deg F.

E. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.

F. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.

G. Fasteners: Stainless-steel rivets or self-tapping screws.

H. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

I. Label Content: Include caution and warning information, plus emergency notification instructions.

2.3 PIPE LABELS

A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service and showing flow direction.

B. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.

C. Pipe-Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings; pipe size; and an arrow indicating flow direction.

1. Flow-Direction Arrows: Integral with piping-system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
2. Lettering Size: At least 1-1/2 inches high.

D. Pipe-Label Colors:

1. Background Color: Red.
2. Letter Color: White.

2.4 VALVE TAGS

A. Valve Tags: Stamped or engraved with 1/4-inch letters for piping-system abbreviation and 1/2-inch numbers.

1. Tag Material: Brass, 0.032-inch-thick, with predrilled holes for attachment hardware.
2. Fasteners: Brass wire-link chain or S-hook.
3. Valve-Tag Color: Red.
4. Letter Color: White.

B. Valve Schedules: For each piping system, on 8-1/2-by-11-inch bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.

1. Valve-tag schedule shall be included in operation and maintenance data.

2.5 WARNING TAGS

A. Warning Tags: Preprinted or partially preprinted, accident-prevention tags, of plasticized card stock with matte finish suitable for writing.

1. Size: 3 by 5-1/4 inches minimum.
2. Fasteners: Brass grommet and wire-link chain.

3. Nomenclature: Large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."
4. Color: Yellow background with black lettering.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean piping and equipment surface of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 GENERAL INSTALLATION REQUIREMENTS

A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be installed.

B. Coordinate installation of identifying devices with locations of access panels and doors.

C. Install identifying devices before installing acoustical ceilings and similar concealment.

3.3 EQUIPMENT LABEL INSTALLATION

A. Install or permanently fasten labels on each major item of fire protection equipment.

B. Locate equipment labels where accessible and visible.

3.4 PIPE LABEL INSTALLATION

A. Pipe-Label Locations: Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:

1. Near each valve and control device.
2. Near each branch connection excluding short takeoffs. Where flow pattern is not obvious, mark each pipe at branch.
3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
4. At access doors, manholes, and similar access points that permit view of concealed piping.
5. Near major equipment items and other points of origination and termination.
6. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.
7. On piping above removable acoustical ceilings. Omit intermediately spaced labels.

B. Training Systems Pipe Labels: All fire suppression training systems shall be identified with labels that state “For Training Only” Each pipe label shall include this language along all piping serving a training system.

3.5 VALVE-TAG INSTALLATION

A. Install tags on valves and control devices in piping systems. List tagged valves in a valve-tag schedule.

B. Valve-Tag Application Schedule: Tag valves according to size, shape, and with captions like those indicated in "Valve-Tag Size and Shape" Subparagraph below:

1. Valve-Tag Size and Shape:

a. Wet-Pipe Sprinkler System: 1-1/2 inches, round.
b. Dry-Standpipe Training System: 1-1/2 inches, round.

3.6 WARNING-TAG INSTALLATION

A. Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 210553

SECTION 21 11 19 - FIRE-DEPARTMENT CONNECTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Flush-type fire-department connections
2. Storz-type fire department connections

B. Related Sections:

1. Section 210517 “Sleeves and Sleeve Seals for Fire-Suppression Piping”
2. Section 210518 “Escutcheons for Fire-Suppression Piping”
3. Section 210523 “General Duty Valves for Fire Protection Piping”
4. Section 210529 “Hangers and Supports for Fire Suppression Piping and Equipment”
5. Section 210553 “Identification for Fire-Suppression Piping and Equipment”
6. Section 211313 “Wet-Pipe Sprinkler Systems”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each fire-department connection.

PART 2 - PRODUCTS

2.1 FLUSH-TYPE FIRE-DEPARTMENT CONNECTION

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. American Fire Hose & Cabinet.
2. Guardian Fire Equipment, Inc.
3. Potter Roemer.

B. Minimum Requirements:

1. Standard: UL 405.
2. Type: Flush, for wall mounting.
3. Pressure Rating: 175 psig minimum.
4. Body Material: Corrosion-resistant metal.
5. Inlets: Brass with threads according to NFPA 1963 and matching local fire-department sizes and threads. Include extension pipe nipples, brass lugged swivel connections, and check devices or clappers.
6. Caps: Brass, lugged type, with gasket and chain.
7. Escutcheon Plate: Rectangular, brass, wall type.
8. Outlet: With pipe threads.
9. Body Style: Horizontal.
10. Number of Inlets: Two.
11. Outlet Location: Back.
12. Escutcheon Plate Marking: Similar to "AUTO SPKR"
13. Finish: Rough bronze.
14. Outlet Size: NPS 4.

2.2 STORZ-TYPE FIRE-DEPARTMENT CONNECTION

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. American Fire Hose & Cabinet.
2. Guardian Fire Equipment, Inc.
3. Potter Roemer.

B. Minimum Requirements:

1. Standard: UL 405.
2. Type: Straight pattern type.
3. Pressure Rating: 175 psig minimum.
4. Body Material: Forged Aluminum with powder coat finish.
5. Inlet: 4-inch Storz connection.
6. Outlet: Female 4” NPT
7. Caps: Storz type blind cap with securing chain. Forged aluminum construction with powder coat finish.
8. Identification Plate: Brass identification plate with letters raised 1” in height reading similar to “AUTO SPKR”.

2.3 ACCESSORIES

A. At the low point near each fire department connection, install a 90-degree elbow with drain connection to allow for localized system drainage to prevent freezing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of fire-department connections.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install wall-type fire-department connection not less than 18 inches and not more than 48 inches above the level of the adjacent grade.

B. Install automatic (ball-drip) drain valve on fire-department side of check valve. Locate at low-point below fire-department connection and discharge drain through exterior wall.

END OF SECTION 211119

SECTION 21 13 13 - WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Steel Pipe and Fittings
2. Pipe Joining Materials
3. Specialty Valve
4. Sprinkler Specialty Pipe Fittings
5. Sprinklers.
6. Backflow Preventer
7. Alarm devices.
8. Pressure gauges.

B. Related Sections:

1. Section 210517 “Sleeves and Sleeve Seals for Fire-Suppression Piping”
2. Section 210518 “Escutcheons for Fire-Suppression Piping”
3. Section 210523 “General Duty Valves for Fire Protection Piping”
4. Section 210529 “Hangers and Supports for Fire Suppression Piping and Equipment”
5. Section 210553 “Identification for Fire-Suppression Piping and Equipment”
6. Section 211119 “Fire Department Connections”

1.3 DEFINITIONS

A. Standard-Pressure Sprinkler Piping: Wet-pipe sprinkler system piping designed to operate at working pressure of 175 psig maximum.

1.4 SYSTEM DESCRIPTIONS

A. Wet-Pipe Sprinkler System: Automatic sprinklers are attached to piping containing water and that is connected to water supply through alarm valve. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device. Hose connections are included if indicated.

1.5 PERFORMANCE REQUIREMENTS

A. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.

B. Delegated Design: Design sprinkler system(s), including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria obtained.

C. Sprinkler system design shall be approved by authorities having jurisdiction.

1. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.
2. Sprinkler Occupancy Hazard Classifications:

    a. Apparatus Bays: Ordinary Hazard, Group 2
    b. Building Service Areas: Ordinary Hazard, Group 1.
    c. Electrical Equipment Rooms: Ordinary Hazard, Group 1.
    d. General Storage Areas: Ordinary Hazard, Group 1.
    e. Mechanical Equipment Rooms: Ordinary Hazard, Group 1.
    f. Office and Public Areas: Light Hazard.
    g. Special Occupancy Hazard: As determined by NFPA 13 and authorities having jurisdiction.

3. Minimum Density for Automatic-Sprinkler Piping Design:

    a. Light-Hazard Occupancy: 0.10 gpm over 1500-sq. ft. area.
    b. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm over 1500-sq. ft. area.
    c. Ordinary-Hazard, Group 2 Occupancy: 0.20 gpm over 1500-sq. ft. area.
    d. Special Occupancy Hazard: As determined by NFPA 13 and authorities having jurisdiction.

4. Maximum Protection Area per Sprinkler: Per UL listing.
5. Maximum Protection Area per Sprinkler:

    a. Light Hazard: 225 sq. ft.
    b. Ordinary Hazard: 130 sq. ft.
    c. Other Areas: According to NFPA 13 recommendations unless otherwise indicated.

6. Total Combined Hose-Stream Demand Requirement: According to NFPA 13 unless otherwise indicated:

    a. Light-Hazard Occupancies: 100 gpm for 30 minutes.
    b. Ordinary-Hazard Occupancies: 250 gpm for 60 to 90 minutes

1.6 SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: For wet-pipe sprinkler systems. Include plans, elevations, sections, details, and attachments to other work.

1. Wiring Diagrams: For power, signal, and control wiring.

C. Delegated-Design Submittal: For sprinkler systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

D. Coordination Drawings: Sprinkler systems, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Structural steel
2. Domestic water piping.
3. HVAC duct.
4. Items penetrating finished ceiling include the following:

    a. Lighting fixtures.
    b. Air outlets and inlets.
    c. Smoke Detectors
    d. Exit Signs

E. Qualification Data: For qualified Installer and professional engineer.

F. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, that have been approved by authorities having jurisdiction, including hydraulic calculations.

1. Sprinklers shall be referred to on drawings, submittals, and other documentation, by the sprinkler identification or Model number as specifically published in the appropriate agency listing or approval.

G. Welding certificates.

H. Grooved joint couplings and fittings shall be referred to on drawings and product submittals and be identified by the manufacturer’s listed model or series designation.

I. Fire hydrant flow test must be performed within 12 months of permit plan submission. Perform fire-hydrant flow test report, record and submit the following information:

1. Date
2. Time
3. Performed by
4. Location of Residual Fire Hydrant R
5. Location of Flow Fire Hydrant F
6. Static Pressure at Residual Fire Hydrant R (psig)
7. Measured Flow at Flow Fire Hydrant F (gpm)
8. Residual Pressure at Residual Fire Hydrant R (psig)

J. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."

K. Field quality-control reports.

L. Operation and Maintenance Data: For sprinkler specialties to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.

a. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer.

B. Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

C. All grooved couplings, fittings, valves, and specialties shall be the products of a single manufacturer. Grooving tools shall be of the same manufacturer as the grooved components.

1. All castings used for couplings housings, fittings, or valve and specialty bodies shall be date stamped for quality assurance and traceability.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

E. NFPA Standards: Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the following:

1. NFPA 13, "Installation of Sprinkler Systems."

1.8 COORDINATION

A. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

1.9 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Sprinkler Cabinets: Finished, wall-mounted, steel cabinet with hinged cover, and with space for minimum of six spare sprinklers plus sprinkler wrench. Include number of sprinklers required by NFPA 13 and sprinkler wrench. Include separate cabinet with sprinklers and wrench for each type of sprinkler used on Project.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

2.2 STEEL PIPE AND FITTINGS

A. Standard Weight Galvanized- and Black-Steel Pipe: ASTM A 53/A 53M, Type E, Grade B. Pipe ends may be factory or field formed to match joining method.

B. Schedule 10, Black-Steel Pipe: ASTM A 135 or ASTM A 795/A 795M, Schedule 10 in NPS 5 and smaller; and NFPA 13-specified wall thickness in NPS 6 to NPS 10 plain end.

C. Galvanized- and Black-Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M, standard-weight, seamless steel pipe with threaded ends.

D. Galvanized and Uncoated, Steel Couplings: ASTM A 865, threaded.

E. Galvanized and Uncoated, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.

F. Malleable- or Ductile-Iron Unions: UL 860.

G. Cast-Iron Flanges: ASME 16.1, Class 125.

H. Steel Flanges and Flanged Fittings: ASME B16.5, Class 150.

I. Steel Welding Fittings: ASTM A 234/A 234M and ASME B16.9.

J. Grooved-Joint, Steel-Pipe Appurtenances:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Anvil International, Inc.
    b. National Fittings, Inc.
    c. Tyco Fire & Building Products LP.
    d. Victaulic Company.

2. Pressure Rating: 175 psig minimum.
3. Galvanized and Uncoated, Grooved-End Fittings for Steel Piping: ASTM A 536, ductile-iron casting; with dimensions matching steel pipe. Where short-pattern fittings are used in applicable sizes, they should have equal flow to standard pattern fittings.
4. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213, rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber center-leg gasket with pipe stop for proper groove engagement, alignment and pipe insertion depth, and ASTM A449 compliant bolts and nuts.

a. Flexible Type: For use in locations where vibration attenuation and stress relief are required.

2.3 PIPING JOINING MATERIALS

A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8-inch-thick or ASME B16.21, nonmetallic and asbestos free.

1. Class 125, Cast-Iron Flanges and Class 150, Bronze Flat-Face Flanges: Full-face gaskets.

B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

C. Welding Filler Metals: Comply with AWS D10.12M/D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

D. Grooved Joint Lubricants: Lubricate gasket in accordance with the manufacturer’s published instructions with lubricant approved for the gasket elastomer and fluid media.

2.4 SPECIALTY VALVES

A. General Requirements:

1. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing.
2. Pressure Rating:

a. Standard-Pressure Piping Specialty Valves: 175 psig minimum.

3. Body Material: Cast or ductile iron.
4. Size: Same as connected piping.
5. End Connections: Flanged or grooved.

B. Alarm Check Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Globe Fire Sprinkler Corporation.
b. Reliable Automatic Sprinkler Co., Inc.
c. Tyco Fire & Building Products LP.
d. Victaulic Company.
e. Viking Corporation.

2. Description: Ductile iron body with rubber-faced clapper hinged to access cover. All moving parts capable of being serviced without removing valve from installed position. External bypass trim with non-interruptible pressure switch to activate remote alarm. Include taps for inlet and outlet pressure gauges, alarm devices and system main drain. Include all trim and alarm test valve.

3. Standard: UL 312 and FM Global's "Approval Guide"

C. Floor Control | Zone Assembly:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Globe Fire Sprinkler Corporation.
   b. Victaulic Company.

2. Description: Universal Manifold Check Valve: Where universal manifold check valves are specified for use in wet-pipe sprinkler systems, as floor control manifolds they shall be specifically listed for such use. Universal manifold check valves shall be ductile iron construction, incorporating a control valve, check valve, flow switch, test & drain assembly, adjustable relief valve, and system gauges in one compact body/footprint, and shall be manufactured for "right" and "left"-hand orientations. The test & drain assemble shall contain an adjustable relief valve, with a range of 175 to 310 psi, and a universal test orifice of K2.8; to provide testing capabilities of systems with k-factors ranging from K2.8 and larger. Universal manifold check valve shall be rated for use at the maximum service pressure of 300 psi and shall be UL listed and FM approved.

3. Standard: UL and FM Global's "Approval Guide"

D. Automatic (Ball Drip) Drain Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. AFAC Inc.
   b. Reliable Automatic Sprinkler Co., Inc.
   c. Tyco Fire & Building Products LP.

2. Standard: UL 1726.
3. Pressure Rating: 175 psig minimum.
4. Type: Automatic draining, ball check.
5. Size: NPS 3/4.
6. End Connections: Threaded.

E. Air Venting Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. AGF Manufacturing Inc. (Basis of Design Model 7910MAV)
   b. Globe Fire Sprinkler Corporation.
   c. Tyco Fire & Building Products LP.
   d. Victaulic Company.
   e. Viking Corporation.

2. Standard: UL's "Product iQ". NFPA 13.
3. Pressure Rating: 300 psig minimum.

4. Body Material: Forge brass
5. Inlet/Outlet Size: 1/2-inch NPT.
6. End Connections: Threaded.

2.5 SPRINKLER SPECIALTY PIPE FITTINGS

A. Branch Outlet Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Anvil International, Inc.
    b. National Fittings, Inc.
    c. Shurjoint Piping Products.
    d. Tyco Fire & Building Products LP.
    e. Victaulic Company.

2. Standard: UL 213.
3. Pressure Rating: 175 psig minimum.
4. Body Material: Ductile-iron housing with EPDM seals and bolts and nuts.
5. Type: Mechanical-T and -cross fittings.
6. Configurations: Snap-on and strapless, ductile-iron housing with branch outlets.
7. Size: Of dimension to fit onto sprinkler main and with outlet connections as required to match connected branch piping.
8. Branch Outlets: Grooved, plain-end pipe, or threaded.

B. Sprinkler Inspector's Test Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. AGF Manufacturing Inc. (Basis of Design Model M1011A)
    b. Globe Fire Sprinkler Corporation.
    c. Triple R Specialty.
    d. Tyco Fire & Building Products LP.
    e. Victaulic Company.
    f. Viking Corporation.

2. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing.
3. Pressure Rating: 175 psig minimum.
4. Body Material: Bronze, Cast- or ductile-iron housing with integral sight glass.
5. Valve Type: Multi-position valve with positions for closed, test and drain.

    a. “Test” position shall be equivalent to a ½” sprinkler orifice discharge.

6. Size:

    a. 1-inch inlet and outlet when used only as a method for testing for remote installations.

b. 2-inch inlet and outlet when used concurrently as a sprinkler riser main drain.

7. Inlet and Outlet: Threaded or grooved ends.
8. Pressure relief valve: Integral or as an attachment, to be set to 175 psig. Relief valve shall automatically reset or close at a minimum of 80% of set pressure. Relief valve shall have a threaded outlet and be piped into system drain piping.

C. Adjustable Drop Nipples:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. CECA, LLC.
b. Corcoran Piping System Co.
c. Merit Manufacturing; a division of Anvil International, Inc.

2. Standard: UL 1474.
3. Pressure Rating: 250 psig minimum.
4. Body Material: Steel pipe with EPDM-rubber O-ring seals.
5. Size: Same as connected piping.
6. Length: Adjustable.
7. Inlet and Outlet: Threaded.

2.6 SPRINKLERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Globe Fire Sprinkler Corporation
2. Reliable Automatic Sprinkler Co., Inc.
3. Tyco Fire & Building Products LP.
4. Victaulic Company.
5. Viking Corporation.

B. General Requirements:

1. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing.
2. Pressure Rating for Automatic Sprinklers: 175 psig minimum.
3. Sprinklers shall be glass bulb type, with hex shaped wrench boss integrally cast into the sprinkler body to reduce the risk of damage during installation.

a. Wrenches shall be provided by the sprinkler manufacturer that directly engage the hex-shaped wrench boss integrally cast in the sprinkler body.

C. Automatic Sprinklers with Heat-Responsive Element:

1. Nonresidential Applications: UL 199.
2. UL listed and FM approved rigid coupling to join sprinklers with IGS profile grooved ends to matching 1” IGS outlets; Coupling shall consist of two cast copper-alloy housing

segments for connection of ½", ¾", and 1" sprinklers. Coupling shall include an EPDM Type A gasket, with zinc-plated cap screws conforming to ASTM F835, and nylon insert locknut. Rated for a working pressure to 175 psi.

3. Characteristics: Nominal 1/2-inch orifice with Discharge Coefficient K of 5.6, and for "Ordinary" temperature classification rating and as follows for specific situations (unless otherwise indicated or required by application):

    a. Apparatus Bay – K=8.0 Upright

D. Sprinkler Finishes:

1. Bronze.
2. Painted.

E. Corrosion resistant coatings to be one of the following unless indicated otherwise on plans:

1. Electroless Nickel PTFE Plated
2. Nickel/Teflon coating

F. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.

1. Ceiling or Sidewall Mounting: Plastic, white finish, one piece, flat to match sprinkler finish.
2. Outdoor or in areas exposed to moisture: Non-corrosive to match sprinkler head finish.

G. Sprinkler Guards:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Globe Fire Sprinkler Corporation.
    b. Reliable Automatic Sprinkler Co., Inc.
    c. Tyco Fire & Building Products LP.
    d. Victaulic Company.
    e. Viking Corporation.

2. Standard: UL 199.
3. Type: Wire cage with fastening device for attaching to sprinkler.

H. Flexible Sprinkler Drop Connections

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Reliable Automatic Sprinkler Co., Inc.
    b. Tyco Fire & Building Products LP.
    c. Victaulic Company.
    d. Viking Corporation.

2. Material: Braided type 304 stainless steel flexible tube, zinc plated steel male threaded nipple or coupling for connection to branch-line piping, and a zinc plated steel reducer with a female thread for connection to the sprinkler head.
3. Bend: Flexible tube shall have a UL approved minimum bend radius of 3 inches. The number of bends when installed shall not exceed allowable bends per manufacturer.
4. Union joints shall be provided for ease of installation.
5. The flexible drop shall attach to the ceiling grid using manufacturer approved bracket.
6. The bracket shall allow installation before the ceiling tile is in place.
7. The braided drop system shall be UL listed and FM Approved for sprinkler services to 175 psi.
8. Maximum length of flexible drop shall be 6 feet.
9. Flexible drop connection to branch shall only be permitted to be on the top half of the branch pipe.
10. Flexible sprinkler drops are only permitted with suspended ACT type ceiling and ceiling grid.

2.7 BACKFLOW PREVENTERS

A. Double-Check, Detector-Assembly Backflow Preventers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Mueller Co.
    b. Watts; a Watts Water Technologies Company
    c. Zurn Industries

2. Standards: ASSE 1048 and UL's "Fire Protection Equipment Directory" listing or FM Global's "Approval Guide."
3. Operation: Continuous-pressure applications.
4. Size: 4” NPS.
5. Body Material: Cast Bronze.
6. End Connections: Flanged
7. Configuration: Designed for horizontal, straight through flow.
8. Accessories:

    a. Valves: UL 262 and FM Global's "Approval Guide" listing; OS&Y gate type with grooved ends on inlet and outlet.

B. Backflow Preventer Test Kits:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Flowmatic Corporation.
    b. Watts; a Watts Water Technologies Company
    c. Wilkins; Zurn Industries

2. Description: Factory calibrated, with gages, fittings, hoses, and carrying case with test-procedure instructions.

2.8 ALARM DEVICES

A. Alarm-device types shall match piping and equipment connections.

B. Electrically Operated Alarm Bell:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Fire-Lite Alarms, Inc.; a Honeywell company.
   b. Notifier; a Honeywell company.
   c. Potter Electric Signal Company.
   d. System Sensor

2. Standard: UL 464.
3. Type: Vibrating, metal alarm bell.
4. Size: 6-inch minimum diameter.
5. Finish: Red-enamel factory finish, suitable for outdoor use.
6. Voltage: 24V

C. Water-Flow Indicators:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. ADT Security Services, Inc.
   b. McDonnell & Miller; ITT Industries.
   c. Potter Electric Signal Company.
   d. System Sensor; a Honeywell company.
   e. Viking Corporation.
   f. Watts Industries (Canada) Inc.

2. Standard: UL 346.
3. Water-Flow Detector: Electrically supervised.
4. Components: Two single-pole, double-throw circuit switches for isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.
5. Type: Paddle operated.
6. Pressure Rating: 250 psig.
7. Design Installation: Horizontal or vertical.

D. Pressure Switches:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. AFAC Inc.
   b. Potter Electric Signal Company.
   c. System Sensor; a Honeywell company.
   d. Tyco Fire & Building Products LP.

e. Viking Corporation.

2. Standard: UL 346.
3. Type: Electrically supervised water-flow switch with retard feature.
4. Components: Single-pole, double-throw switch with normally closed contacts.
5. Design Operation: Rising pressure signals water flow.

E. Valve Supervisory Switches:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Fire-Lite Alarms, Inc.; a Honeywell company.
b. Kennedy Valve; a division of McWane, Inc.
c. Potter Electric Signal Company.
d. System Sensor; a Honeywell company.

2. Standard: UL 346.
3. Type: Electrically supervised.
4. Components: Single-pole, double-throw switch with normally closed contacts.
5. Design: Signals that controlled valve is in other than fully open position.

2.9 PRESSURE GAUGES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AMETEK; U.S. Gauge Division.
2. Ashcroft, Inc.
3. Brecco Corporation.
4. WIKA Instrument Corporation.

B. Minimum Requirements:

1. Standard: UL 393.
2. Dial Size: 3-1/2- to 4-1/2-inch diameter.
3. Pressure Gauge Range: 0 to 250 psig minimum.
4. Water System Piping Gauge: Include "WATER" label on dial face.

PART 3 - EXECUTION

3.1 PREPARATION

A. Perform fire-hydrant flow test according to NFPA 13 and NFPA 291. Use results for system design calculations required in "Quality Assurance" Article.

B. Report test results promptly and in writing.

3.2 WATER-SUPPLY CONNECTIONS

A. Install shutoff valve, backflow preventer, pressure gauge, drain, and other accessories indicated at connection to water-service piping.

3.3 PIPING INSTALLATION

A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.

1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.

B. Piping Standard: Comply with requirements for installation of sprinkler piping in NFPA 13.

C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.

D. Install unions adjacent to each valve in pipes NPS 2 and smaller.

E. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

F. Install Inspector’s Test Valve and drain directly after flow switch in sprinkler system riser piping. Connect inspectors test drain piping into system drain piping. Test valve to be located and installed according to NFPA 13.

G. Install sprinkler piping with drains for complete system drainage.

H. Install automatic (ball drip) drain valve in piping between fire-department connection and check valve. Install automatic drip at lowest point of piping practical to drain water from piping. Install drain piping from automatic ball drip to spill over nearest floor drain or to outside building. Piping out of building to be corrosion resistant with insect screen.

I. Install alarm devices in piping systems.

J. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.

K. Install pressure gauges on riser or feed main, at each sprinkler test connection. Include pressure gauges with connection not less than NPS 1/4 and with soft metal seated globe valve, arranged for draining pipe between gauge and valve. Install gauges to permit removal and install where they will not be subject to freezing.

L. Fill sprinkler system piping with water.

M. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 210517 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

N. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 210517 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

O. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 210518 "Escutcheons for Fire-Suppression Piping."

3.4 JOINT CONSTRUCTION

A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.

B. Install unions adjacent to each valve in pipes NPS 2 and smaller.

C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.

G. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

H. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts in accordance with the manufacturer’s latest published instructions. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service. Gaskets shall be molded and produced by the grooved coupling manufacturer. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove. Grooved coupling manufacturer’s factory trained field representative shall provide on-site training for contractor’s field personnel in the proper use of grooving tools, application of groove, and installation of grooved piping products. Factory trained representative shall periodically visit the jobsite to ensure best practices in grooved product installation are being followed. Contractor shall remove and replace any improperly installed products.

I. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts in accordance with

the manufacturer's latest published instructions. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service. Gaskets shall be molded and produced by the grooved coupling manufacturer. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove. Grooved coupling manufacturer's factory trained field representative shall provide on-site training for contractor's field personnel in the proper use of grooving tools, application of groove, and installation of grooved piping products. Factory trained representative shall periodically visit the jobsite to ensure best practices in grooved product installation are being followed. Contractor shall remove and replace any improperly installed products.

3.5 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hanger, support products, and installation in Section 210529 "Hangers and Supports for Fire Suppression Piping and Equipment."

1. Vertical Piping: MSS Type 8 or 42, clamps.
2. Individual, Straight, Horizontal Piping Runs:
    a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
    b. Longer than 100 Feet: MSS Type 43, adjustable roller hangers.
    c. Longer than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.
3. Base of Vertical Piping: MSS Type 52, spring hangers.

B. Support vertical piping and tubing at base and at each floor.

C. Rod diameter may be reduced one size for double-rod hangers, to a minimum of 3/8 inch.

D. Install hangers for steel piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/4 and smaller: 84 inches with 3/8-inch rod.
2. NPS 1-1/2: 108 inches with 3/8-inch rod.
3. NPS 2: 10 feet with 3/8-inch rod.
4. NPS 2-1/2: 11 feet with 1/2-inch rod.
5. NPS 3 and NPS 3-1/2: 12 feet with 1/2-inch rod.
6. NPS 4 and NPS 5: 12 feet with 5/8-inch rod.

E. Install supports for vertical steel piping every 15 feet.

3.6 VALVE AND SPECIALTIES INSTALLATION

A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.

B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.

C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.

D. Specialty Valves:

1. General Requirements: Install in vertical position for proper direction of flow, in main supply to system.
2. Alarm Check Valves: Include trim and drain-line connection with bypass check valve and retarding chamber.

3.7 SPRINKLER INSTALLATION

A. Install sprinklers in suspended ceilings in center of narrow dimension of acoustical ceiling panels.

B. Install return bends in piping for all pendent type sprinkler heads.

C. Install sprinkler guards on sprinklers that are installed at or below 78 inches, or as indicated on plans.

D. Dry-barrel type sprinkler heads shall be field measured to confirm final barrel length prior to ordering.

E. Do not install sprinklers that have been dropped, damaged, show a visible loss of fluid, or a cracked bulb.

F. The sprinkler bulb protector shall be removable by hand, without tools or devices that may damage the bulb.

3.8 IDENTIFICATION

A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

B. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.9 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.

4. Energize circuits to electrical equipment and devices.
5. Coordinate with fire-alarm tests. Operate as required.
6. Verify that equipment hose threads are same as local fire-department equipment.

C. Sprinkler piping system will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.10 CLEANING

A. Clean dirt and debris from sprinklers.

B. Remove and replace sprinklers with paint other than factory finish.

3.11 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain specialty valves and pressure-maintenance pumps.

3.12 PIPING SCHEDULE

A. Piping between Fire-Department Connections and Check Valves: Galvanized, standard-weight steel pipe with grooved ends; grooved-end fittings; grooved-end-pipe couplings; and grooved joints.

B. Sprinkler specialty fittings may be used, downstream of control valves, instead of specified fittings.

C. Standard-pressure, wet-pipe sprinkler system, NPS 2 and smaller, shall be one of the following:

1. Standard-weight, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
2. Standard-weight, galvanized-steel pipe with threaded ends; galvanized, gray-iron threaded fittings; and threaded joints.

D. Standard-pressure, wet-pipe sprinkler system, NPS 2-1/2 to NPS 4, shall be one of the following:

1. Standard-weight, black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.
2. Standard-weight, galvanized-steel pipe with cut-grooved ends; galvanized, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

E. Standard-pressure, wet-pipe sprinkler system, NPS 5 and larger, shall be one of the following:

1. Standard-weight, black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.
2. Standard-weight, galvanized-steel pipe with cut-grooved ends; galvanized, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

3. Schedule 10, black-steel pipe with roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

F. Drain Piping NPS 2 and smaller, shall be the following:

1. Standard-weight, galvanized-steel pipe with threaded ends; galvanized, gray-iron threaded fittings; and threaded joints.

3.13 SPRINKLER SCHEDULE

A. Provide quick response sprinkler heads for light and ordinary hazard areas and standard response sprinkler heads for extra hazard areas, unless prohibited by NFPA 13 or otherwise indicated.

B. Use sprinkler types with finishes indicated in subparagraphs below for the following applications unless indicated otherwise on plans:

1. Spaces with Ceilings: Semi-Recessed pendant sprinkler, white polyester finish with white escutcheon.
2. Wall Mounting: Semi-Recessed sidewall sprinkler, white polyester finish with white escutcheon.
3. Below Overhead Doors: Sidewall sprinkler, rough bronze finish.
4. Finished Spaces without Ceilings: Upright sprinklers with white or chrome plated finish.
5. Unfinished Spaces without Ceilings: Upright sprinklers with rough bronze finish.
6. IT Room: Dry barrel horizontal sidewall sprinkler, white polyester finish with white escutcheon.
7. Special Applications: Extended-coverage, flow-control and ESFR sprinklers where indicated with finish to match other heads in space or in accordance with finishes above.
8. Corrosive Environments: Corrosion resistant finish shall be factory applied to all heads exposed to acids, chemical, moisture or other corrosive fumes.

C. Sprinklers for light and ordinary hazard classification areas shall be ordinary temperature heads with a red glass bulb and a minimum temperature rating of 155°F, unless indicated otherwise on drawings.

END OF SECTION 211313

SECTION 22 05 00 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Piping materials and installation instructions common to most piping systems.
2. Transition fittings.
3. Dielectric fittings.
4. Mechanical sleeve seals.
5. Sleeves.
6. Escutcheons.
7. Grout.
8. Equipment installation requirements common to equipment sections.
9. Concrete bases.

1.3 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in chases.

E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

F. The following are industry abbreviations for plastic materials:

1. ABS: Acrylonitrile-butadiene-styrene plastic.
2. CPVC: Chlorinated polyvinyl chloride plastic.

3. PE: Polyethylene plastic.
4. PVC: Polyvinyl chloride plastic.

G. The following are industry abbreviations for rubber materials:

1. EPDM: Ethylene-propylene-diene terpolymer rubber.
2. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Transition fittings.
2. Dielectric fittings.
3. Mechanical sleeve seals.
4. Escutcheons.

B. Welding certificates.

1.5 QUALITY ASSURANCE

A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code--Steel."

B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

C. Electrical Characteristics for Plumbing Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

1.7 COORDINATION

A. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction, to allow for plumbing installations.

B. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:

1. Performance: The product shall meet the listed performance specifications.

2.2 PIPE, TUBE, AND FITTINGS

A. Refer to individual Division 22 piping Sections for pipe, tube, and fitting materials and joining methods.

B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.3 JOINING MATERIALS

A. Refer to individual Division 22 piping Sections for special joining materials not listed below.

B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.

1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch maximum thickness unless thickness or specific material is indicated.

a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.

2. AWWA C110, rubber, flat face, 1/8 inch thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.

C. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.

D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

E. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.4 TRANSITION FITTINGS

A. AWWA Transition Couplings: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.

1. Underground Piping NPS 1-1/2 and Smaller: Manufactured fitting or coupling.
2. Underground Piping NPS 2 and Larger: AWWA C219, metal sleeve-type coupling.
3. Aboveground Pressure Piping: Pipe fitting.

B. Flexible Transition Couplings for Underground Nonpressure Drainage Piping: ASTM C 1173 with elastomeric sleeve, ends same size as piping to be joined, and corrosion-resistant metal band on each end.

2.5 DIELECTRIC FITTINGS

A. Description: Combination fitting of copper alloy and ferrous materials with threaded, solder-joint, plain, or weld-neck end connections that match piping system materials.

B. Insulating Material: Suitable for system fluid, pressure, and temperature.

C. Dielectric Unions: Factory-fabricated, union assembly, for 250-psig minimum working pressure at 180°F.

D. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig minimum working pressure as required to suit system pressures.

E. Dielectric-Flange Kits: Companion-flange assembly for field assembly. Include flanges, full-face- or ring-type neoprene or phenolic gasket, phenolic or polyethylene bolt sleeves, phenolic washers, and steel backing washers.

1. Separate companion flanges and steel bolts and nuts shall have 150- or 300-psig minimum working pressure where required to suit system pressures.

F. Dielectric Couplings: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining; threaded ends; and 300-psig minimum working pressure at 225°F.

G. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and 300-psig minimum working pressure at 225°F.

2.6 MECHANICAL SLEEVE SEALS

A. Description: Modular sealing element unit, designed for field assembly, to fill annular space between pipe and sleeve.

1. Sealing Elements: EPDM interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: Stainless steel. Include two for each sealing element.
3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.7 SLEEVES

A. Galvanized-Steel Sheet: 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint.

B. Steel Pipe: ASTM A 53, Type E, Grade B, Schedule 40, galvanized, plain ends.

C. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

D. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.

1. Underdeck Clamp: Clamping ring with set screws.

2.8 ESCUTCHEONS

A. Description: Manufactured wall and ceiling escutcheons and floor plates, with an ID to closely fit around pipe, tube, and insulation of insulated piping and an OD that completely covers opening.

B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with polished chrome-plated finish.

C. One-Piece, Stamped-Steel Type: With set screw or spring clips and chrome-plated finish.

D. Split-Plate, Stamped-Steel Type: With concealed or exposed-rivet hinge, set screw or spring clips, and chrome-plated finish.

E. One-Piece, Floor-Plate Type: Cast-iron floor plate.

F. Split-Casting, Floor-Plate Type: Cast brass with concealed hinge and set screw.

2.9 GROUT

A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.

1. Characteristics: Post-hardening, volume-adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
2. Design Mix: 5000-psi, 28-day compressive strength.
3. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 PIPING SYSTEMS - COMMON REQUIREMENTS

A. Install piping according to the following requirements and Division 22 Sections specifying piping systems.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping to permit valve servicing.

G. Install piping at slopes indicated on the drawings. If not specified slope piping as required by the plumbing code.

H. Install piping free of sags and bends.

I. Install fittings for changes in direction and branch connections.

J. Install piping to allow application of insulation.

K. Select system components with pressure rating equal to or greater than system operating pressure.

L. Install escutcheons for penetrations of walls, ceilings, and floors according to the following:

1. New Piping:

    a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
    b. Chrome-Plated Piping: One-piece, cast-brass type with polished chrome-plated finish.
    c. Insulated Piping: One-piece, stamped-steel type with spring clips.
    d. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, stamped-steel type.
    e. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece, stamped-steel type or split-plate, stamped-steel type with concealed hinge and set screw.
    f. Bare Piping in Unfinished Service Spaces: One-piece, stamped-steel type with concealed or exposed-rivet hinge and set screw or spring clips.
    g. Bare Piping in Equipment Rooms: One-piece, stamped-steel type with set screw or spring clips.
    h. Bare Piping at Floor Penetrations in Equipment Rooms: One-piece, floor-plate type.

M. Sleeves are not required for core-drilled holes.

N. Permanent sleeves are not required in floors for holes formed by removable sleeves.

O. Install sleeves for pipes passing through concrete and masonry walls and concrete floor and roof slabs.

P. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs.

1. Cut sleeves to length for mounting flush with both surfaces.

a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level. Extend cast-iron sleeve fittings below floor slab as required to secure clamping ring if ring is specified.

2. Install sleeves in new walls and slabs as new walls and slabs are constructed.
3. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation. Use the following sleeve materials:

a. Steel Pipe Sleeves: For pipes smaller than NPS 6.
b. Steel Sheet Sleeves: For pipes NPS 6 and larger, penetrating gypsum-board partitions.
c. Stack Sleeve Fittings: For pipes penetrating floors with membrane waterproofing. Secure flashing between clamping flanges. Install section of cast-iron soil pipe to extend sleeve to 2 inches above finished floor level. Refer to Division 076200 Section "Sheet Metal Flashing and Trim" for flashing.

1) Seal space outside of sleeve fittings with grout.

Q. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

1. Install steel pipe for sleeves smaller than 6 inches in diameter.
2. Install cast-iron "wall pipes" for sleeves 6 inches and larger in diameter.
3. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

R. Underground, Exterior-Wall Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Seal pipe penetrations using mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

1. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

S. Verify final equipment locations for roughing-in.

T. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.

3.2 PIPING JOINT CONSTRUCTION

A. Join pipe and fittings according to the following requirements and Division 22 Sections specifying piping systems.

B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.

E. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

F. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.

G. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

3.3 PIPING CONNECTIONS

A. Make connections according to the following, unless otherwise indicated:

1. Install unions, in piping NPS 2 and smaller, adjacent to each valve and at final connection to each piece of equipment.
2. Install flanges, in piping NPS 2-1/2 and larger, adjacent to flanged valves and at final connection to each piece of equipment.
3. Dry Piping Systems: Install dielectric unions and flanges to connect piping materials of dissimilar metals.
4. Wet Piping Systems: Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

3.4 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

A. Install equipment to allow maximum possible headroom unless specific mounting heights are indicated.

B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.

C. Install plumbing equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.

D. Install equipment to allow right of way for piping installed at required slope.

3.5 CONCRETE BASES

A. Concrete Bases: Anchor equipment to concrete base according to equipment manufacturer's written instructions and according to seismic codes at Project.

1. Construct concrete bases not less than 4 inches larger in both directions than supported units.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of the base.
3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to supported equipment.
6. Install anchor bolts according to anchor-bolt manufacturer's written instructions.
7. Use 3000-psi, 28-day compressive-strength concrete and reinforcement as specified in Division 03 Section "Cast-in-Place Concrete."

3.6 GROUTING

A. Mix and install grout for plumbing equipment base bearing surfaces, pump and other equipment base plates, and anchors.

B. Clean surfaces that will come into contact with grout.

C. Provide forms as required for placement of grout.

D. Avoid air entrapment during placement of grout.

E. Place grout, completely filling equipment bases.

F. Place grout on concrete bases and provide smooth bearing surface for equipment.

G. Place grout around anchors.

H. Cure placed grout.

END OF SECTION 220500

SECTION 22 05 19 - METERS AND GAGES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes meters and gages for mechanical systems.

B. Related Sections include the following:

1. Mechanical equipment Sections that specify meters and gages as part of factory-fabricated equipment.

1.3 SUBMITTALS

A. Product Data: Include scale range, ratings, and calibrated performance curves for each meter, gage, fitting, specialty, and accessory specified.

B. Product Certificates: Signed by manufacturers of meters and gages certifying accuracies under specified operating conditions and compliance with specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For meters and gauges to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Performance: The product shall meet the listed performance specifications.

2.2 THERMOMETERS, GENERAL

A. Scale Range: Temperature ranges for services listed are as follows:

1. Domestic Hot Water: 30 to 180ºF, with 2-degree scale divisions.

2. Domestic Cold Water: 0 to 100ºF, with 2-degree scale divisions.

B. Accuracy: Plus or minus 1% of range span or plus or minus one scale division to maximum of 1.5% of range span.

2.3 LIQUID-IN-GLASS THERMOMETERS

A. Description: ASTM E 1.

B. Case: Die cast and aluminum finished in baked-epoxy enamel, glass front, spring secured, 9″ long.

C. Adjustable Joint: Finish to match case, 180º adjustment in vertical plane, 360º adjustment in horizontal plane, with locking device.

D. Tube: Red or blue reading, organic-liquid filled with magnifying lens.

E. Scale: Satin-faced nonreflective aluminum with permanently etched markings.

F. Stem: Aluminum or brass for separable socket; of length to suit installation.

2.4 SEPARABLE SOCKETS

A. Description: Fitting with protective socket for installation in threaded pipe fitting to hold fixed thermometer stem.

1. Material: Brass, for use in copper piping.
2. Material: Stainless steel, for use in steel piping.
3. Extension-Neck Length: Nominal thickness of 2″, but not less than thickness of insulation. Omit extension neck for sockets for piping not insulated.
4. Insertion Length: To extend to center of pipe.
5. Cap: Threaded, with chain permanently fastened to socket.
6. Heat-Transfer Fluid: Oil or graphite.

2.5 THERMOMETER WELLS

A. Description: Fitting with protective well for installation in threaded pipe fitting to hold test thermometer.

1. Material: Brass, for use in copper piping.
2. Material: Stainless steel, for use in steel piping.
3. Extension-Neck Length: Nominal thickness of 2″, but not less than thickness of insulation. Omit extension neck for wells for piping not insulated.
4. Insertion Length: To extend to center of pipe.
5. Cap: Threaded, with chain permanently fastened to socket.
6. Heat-Transfer Fluid: Oil or graphite.

2.6 PRESSURE GAGES

A. Description: ASME B40.1, phosphor-bronze bourdon-tube type with bottom connection; liquid-filled-case type.

B. Case: Brass or aluminum with 4″ minimum diameter, glass lens.

C. Connector: Brass, NPS 1/4.

D. Scale: White-coated aluminum with permanently etched markings.

E. Accuracy: Grade A, plus or minus 1% of middle 50% of scale.

F. Range: Comply with the following:

1. Vacuum: 30″ Hg of vacuum to 15 psig of pressure.
2. Fluids under Pressure: Two times the operating pressure.

2.7 PRESSURE-GAGE FITTINGS

A. Valves: NPS 1/4 brass or stainless-steel needle type.

B. Syphons: NPS 1/4 coil of brass tubing with threaded ends.

C. Snubbers: ASME B40.5, NPS 1/4 brass bushing with corrosion-resistant porous-metal disc of material suitable for system fluid and working pressure.

2.8 TEST PLUGS

A. Description: Nickel-plated, brass-body test plug in NPS 1/2 fitting.

B. Body: Length as required to extend beyond insulation.

C. Pressure Rating: 500 psig minimum.

D. Core Inserts: Two self-sealing valves, suitable for inserting 1/8″OD probe from pressure gage.

E. Core Insert: Self-sealing valve, suitable for inserting 1/8″OD probe from pressure gage.

F. Core Material for Air and Water: Minus 30 to plus 275ºF, ethylene-propylene-diene terpolymer rubber.

G. Test-Plug Cap: Gasketed and threaded cap, with retention chain or strap.

PART 3 - EXECUTION

3.1 METER AND GAGE INSTALLATION, GENERAL

A. Install meters, gages, and accessories according to manufacturer's written instructions for applications where used.

3.2 THERMOMETER INSTALLATION

A. Install thermometers and adjust vertical and tilted positions.

B. Install separable sockets in vertical position in piping tees where fixed thermometers are indicated.

1. Install with socket extending to center of pipe.
2. Fill sockets with oil or graphite and secure caps.

C. Install thermometer wells in vertical position in piping tees where test thermometers are indicated.

1. Install with stem extending to center of pipe.
2. Fill wells with oil or graphite and secure caps.

D. Install thermometers in the following locations:

1. Outlet of water heater.
2. Where indicated on the drawings or specified elsewhere.

3.3 PRESSURE-GAGE INSTALLATION

A. Install pressure gages in piping tees with pressure-gage valve located on pipe at most readable position.

B. Install pressure gages in the following locations:

1. Upstream and downstream of each pressure-reducing valve.
2. Building water-service entrance.
3. Where indicated on the drawings or specified elsewhere.

C. Install pressure-gage needle valve and snubber in piping to pressure gages.

3.4 CONNECTIONS

A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping and specialties. The following are specific connection requirements:

1. Install meters and gages adjacent to machines and equipment to allow service and maintenance.

3.5 ADJUSTING AND CLEANING

A. Calibrate meters according to manufacturer's written instructions, after installation.

B. Adjust faces of meters and gages to proper angle for best visibility.

C. Clean windows of meters and gages and clean factory-finished surfaces. Replace cracked and broken windows, and repair scratched and marred surfaces with manufacturer's touchup paint.

END OF SECTION 220519

SECTION 22 05 23 - GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Bronze ball valves.
2. Bronze swing check valves.

B. Related Sections:

1. Section 220553 "Identification for Plumbing Piping and Equipment" for valve tags and schedules.
2. Section 221116 "Domestic Water Piping" for valves applicable only to this piping.
3. Section 221319 "Sanitary Waste Piping Specialties" for valves applicable only to this piping.

1.3 DEFINITIONS

A. CWP: Cold working pressure.

B. EPDM: Ethylene propylene copolymer rubber.

C. NBR: Acrylonitrile-butadiene, Buna-N, or nitrile rubber.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of valve indicated.

B. Provide valve schedule indicating intended type of valve to be installed and installation location. Refer to valve schedule below.

1.5 QUALITY ASSURANCE

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
2. ASME B31.9 for building services piping valves.

C. NSF Compliance: Comply with NSF 61 and NSF 372 for products serving domestic water.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooves, and weld ends.
3. Set ball valves open to minimize exposure of functional surfaces.
4. Block check valves in either closed or open position.

B. Use the following precautions during storage:

1. Maintain valve end protection.
2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR VALVES

A. Refer to valve schedule articles for applications of valves.

B. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

C. Valve Sizes: Same as upstream piping unless otherwise indicated.

D. Valve Actuator Types:

1. Handlever: For quarter-turn valves.

E. Valve-End Connections:

1. Solder Joint: With sockets according to ASME B16.18.
2. Threaded: With threads according to ASME B1.20.1.
3. Flanged: According to ASME B16.1.

F. Valve Bypass and Drain Connections: MSS SP-45.

2.2 BRONZE BALL VALVES

A. Two-Piece, Full-Port, Bronze Ball Valves with Stainless-Steel Trim:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Conbraco Industries, Inc.; Apollo Valves.
   b. NIBCO INC.
   c. Milwaukee Valve Company.
   d. Watts Regulator Co.; a division of Watts Water Technologies, Inc.

2. Description:

   a. Standard: MSS SP-110.
   b. SWP Rating: 150 psig.
   c. CWP Rating: 600 psig.
   d. Body Design: Two piece.
   e. Body Material: Bronze.
   f. Ends: Threaded.
   g. Seats: PTFE or TFE.
   h. Stem: Stainless steel.
   i. Ball: Stainless steel, vented.
   j. Port: Full.

2.3 BRONZE SWING CHECK VALVES

A. Class 125, Bronze Swing Check Valves with Bronze Disc:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Milwaukee Valve Company.
   b. NIBCO INC.
   c. Powell Valves.
   d. Watts Regulator Co.; a division of Watts Water Technologies, Inc.

2. Description:

   a. Standard: MSS SP-80, Type 3.
   b. CWP Rating: 200 psig.
   c. Body Design: Horizontal flow.
   d. Body Material: ASTM B 62, bronze.
   e. Ends: Threaded.
   f. Disc: Bronze.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.

B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.

C. Examine threads on valve and mating pipe for form and cleanliness.

D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.

E. Do not attempt to repair defective valves; replace with new valves.

3.2 VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Install valves in horizontal piping with stem at or above center of pipe.

C. Install check valves for proper direction of flow and as follows:

1. Swing Check Valves: In horizontal position with hinge pin level.

3.3 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

A. If valve applications are not indicated, use the following:

1. Shutoff Service: Ball valves.

B. If valves with specified SWP classes or CWP ratings are not available, the same types of valves with higher SWP classes or CWP ratings may be substituted.

C. Select valves, except wafer types, with the following end connections:

1. For Copper Tubing, NPS 3 and Smaller: Threaded ends, solder-joint or flanged ends.

3.4 DOMESTIC, HOT- AND COLD-WATER VALVE SCHEDULE

A. Pipe NPS 3 and Smaller:

1. Bronze Valves: May be provided with solder-joint ends instead of threaded ends.
2. Ball Valves: Two piece, full port, bronze with stainless-steel trim.
3. Bronze Swing Check Valves: Class 125, bronze disc.

END OF SECTION 220523

SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal pipe hangers and supports.
2. Metal framing systems.
3. Pipe positioning systems.
4. Thermal-hanger shield inserts.
5. Pipe roof supports.

1.3 DEFINITIONS

A. MSS: Manufacturers Standardization Society of The Valve and Fittings Industry Inc.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 METAL PIPE HANGERS AND SUPPORTS

A. Carbon-Steel Pipe Hangers and Supports:

1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
2. Galvanized Metallic Coatings: Pre-galvanized or hot dipped.
3. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.

2.2 METAL FRAMING SYSTEMS

A. Manufacturer Metal Framing Systems:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following

    a. Anvil International; a subsidiary of Mueller Water Products Inc.
    b. Cooper B-Line, Inc.
    c. NIBCO INC.
    d. Unistrut Corporation; Tyco International, Ltd.

2. Description: Shop- or field-fabricated pipe-support assembly for supporting multiple parallel pipes.
3. Standard: MFMA-4.
4. Channels: Continuous slotted steel channel with inturned lips.
5. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
6. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.
7. Metallic Coating: Electroplated zinc or Hot-dipped galvanized

2.3 THERMAL-HANGER SHIELD INSERTS

A. Description: 100-psig minimum, compressive-strength insulation insert encased in sheet metal shield.

B. Insulation-Insert Material for Cold Piping: Water-repellent treated, ASTM C 533, Type I calcium silicate or ASTM C 552, Type II cellular glass with vapor barrier.

C. Insulation-Insert Material for Hot Piping: Water-repellent treated, ASTM C 533, Type I calcium silicate or ASTM C 552, Type II cellular glass.

D. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe.

E. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe.

F. Insert Length: Extend 2 inches beyond sheet metal shield for piping operating below ambient air temperature.

2.4 PIPE ROOF SUPPORTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Mifab (Basis of Design)
2. PHP.
3. Miro Industries.

B. Fixed-Height Cradle-Type Pipe Supports: Polycarbonate pipe stand accommodating up to 1-1/2-inch-diameter pipe or conduit; with provision for pipe retainer and with manufacturer's support pad or deck plate as recommended for penetration-free installation over roof membrane type; as required for quantity of pipe runs and sizes.

2.5 PIPE POSITIONING SYSTEMS

A. Description: IAPMO PS 42, positioning system of metal brackets, clips, and straps for positioning piping in pipe spaces; for plumbing fixtures in commercial applications.

2.6 MISCELLANEOUS MATERIALS

A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.

1. Properties: Nonstaining, noncorrosive, and nongaseous.
2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

PART 3 - EXECUTION

3.1 HANGER AND SUPPORT INSTALLATION

A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.

B. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.

C. Pipe Positioning-System Installation: Install support devices to make rigid supply and waste piping connections to each plumbing fixture.

D. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

E. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

F. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

G. Insulated Piping:

1. Attach clamps and spacers to piping.

a. Use thermal-hanger shield insert with clamp sized to match OD of insert.
b. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.

2. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.

    a. Option: Thermal-hanger shield inserts may be used.

3. Shield Dimensions for Pipe: Not less than the following:

    a. NPS 1/4 to NPS 4: 12 inches long and 0.048 inch thick.
    b. NPS 5 to NPS 8: 18 inches long and 0.06 inch thick.

4. Thermal-Hanger Shields: Install with insulation same thickness as piping insulation.

3.2 METAL FABRICATIONS

A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers.

B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.

C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. Finish welds at exposed connections so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.3 ADJUSTING

A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.4 HANGER AND SUPPORT SCHEDULE

A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.

B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.

C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.

D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.

E. Use carbon-steel pipe hangers and metal framing systems and attachments for general service applications.

F. Use thermal-hanger shield inserts for insulated piping and tubing.

G. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
2. Yoke-Type Pipe Clamps (MSS Type 2): For suspension of up to 1050 deg F, pipes NPS 4 to NPS 24, requiring up to 4 inches of insulation.
3. Pipe Saddle Supports (MSS Type 36 or 37): For support of pipes NPS 2 to NPS 6, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
4. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36, requiring clamp flexibility and up to 4 inches of insulation.
5. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 if little or no insulation is required.
6. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
7. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes NPS 3/4 to NPS 8.
8. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.

H. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24.
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 if longer ends are required for riser clamps.

I. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches for heavy loads.
2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
3. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11, split pipe rings.
4. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
5. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.

J. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.

2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joist construction, to attach to top flange of structural shape.
3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
6. C-Clamps (MSS Type 23): For structural shapes.
7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
12. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.

K. Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.
2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to prevent crushing insulation.
3. Thermal-Hanger Shield Inserts: For supporting insulated pipe.

L. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.

M. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

N. Use pipe positioning systems in pipe spaces behind plumbing fixtures to support supply and waste piping for plumbing fixtures.

END OF SECTION 220529

SECTION 22 05 53 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Equipment labels.
2. Pipe labels.
3. Valve tags.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For color, letter style, and graphic representation required for each identification material and device.

C. Valve numbering scheme.

D. Valve Schedules: For each piping system to include in maintenance manuals.

1.4 COORDINATION

A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

B. Coordinate installation of identifying devices with locations of access panels and doors.

C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Plastic Labels for Equipment:

1. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick, and having predrilled holes for attachment hardware.
2. Letter Color: Black.
3. Background Color: White.
4. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
5. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
6. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
7. Fasteners: Stainless-steel rivets or self-tapping screws.
8. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), plus the Specification Section number and title where equipment is specified.

C. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch (A4) bond paper. Tabulate equipment identification number and identify Drawing numbers where equipment is indicated (plans, details, and schedules), plus the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

2.2 PIPE LABELS

A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.

B. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to cover full circumference of pipe and to attach to pipe without fasteners or adhesive.

C. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.

D. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings, pipe size, and an arrow indicating flow direction.

1. Flow-Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
2. Lettering Size: At least 1-1/2 inches high.

2.3 VALVE TAGS

A. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch numbers.

1. Tag Material: Brass, 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.

2. Fasteners: Brass wire-link or beaded chain; or S-hook.

B. Valve Schedules: For each piping system, on 8-1/2-by-11-inch bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.

1. Valve-tag schedule shall be included in operation and maintenance data.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean piping surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 PIPE LABEL INSTALLATION

A. Stenciled Pipe Label Option: Stenciled labels may be provided instead of manufactured pipe labels, at Installer's option. Install stenciled pipe labels with painted, color-coded bands or rectangles, complying with ASME A13.1, on each piping system.

1. Identification Paint: Use for contrasting background.
2. Stencil Paint: Use for pipe marking.

B. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:

1. Near each valve and control device.
2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
4. At access doors, manholes, and similar access points that permit view of concealed piping.
5. Near major equipment items and other points of origination and termination.
6. Spaced at maximum intervals of 10 feet along each run.

C. Pipe Label Color Schedule:

1. Domestic Water Piping:

a. Background Color: Green
b. Letter Color: White.

2. Sanitary Waste and Drain Piping:

a. Background Color: White.
b. Letter Color: Black.

3. Storm Piping:

   a. Background Color: White.
   b. Letter Color: Black.

4. Compressed Air Piping:

   a. Background Color: Blue.
   b. Letter Color: White.

5. Non-potable Water:

   a. Background Color: Black.
   b. Letter Color: White.

6. Gas Piping:

   a. Background Color: Yellow
   b. Letter Color: Black

3.3 VALVE-TAG INSTALLATION

A. Install tags on valves and control devices in piping systems, except check valves; valves within factory-fabricated equipment units; shutoff valves; faucets; convenience and lawn-watering hose connections; and similar roughing-in connections of end-use fixtures and units. List tagged valves in a valve schedule.

B. Valve-Tag Application Schedule: Tag valves according to size, shape, and color scheme and with captions similar to those indicated in the following subparagraphs:

1. Valve-Tag Size and Shape:

   a. All: 1-1/2 inches, round.

2. Valve-Tag Color:

   a. All: Natural.

3. Letter Color:

   a. All: Black.

END OF SECTION 220553

SECTION 22 07 19 - PLUMBING PIPING INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes insulating the following plumbing piping services:

1. Insulation Materials.
2. Insulating Cements
3. Adhesives
4. Mastics
5. Supplies and drains for handicap-accessible lavatories and sinks.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied, if any).

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail application of protective shields, saddles, and inserts at hangers for each type of insulation and hanger.
2. Detail insulation application at elbows, fittings, flanges, valves, and specialties for each type of insulation.
3. Detail application of field-applied jackets.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of insulation materials, sealers, attachments, cements, and jackets, with requirements indicated. Include dates of tests and test methods employed.

C. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84 by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.

C. Comply with the following applicable standards and other requirements specified for miscellaneous components:

1. Supply and Drain Protective Shielding Guards: ICC A117.1.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.7 COORDINATION

A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

B. Coordinate clearance requirements with piping Installer for piping insulation application. Before preparing piping Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.8 SCHEDULING

A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.

B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Comply with requirements in "Piping Insulation Schedule, General," "Indoor Piping Insulation Schedule," articles for where insulating materials shall be applied.

B. Products shall not contain asbestos, lead, mercury, or mercury compounds.

C. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.

D. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

1. Products: Subject to compliance with requirements, provide one of the following:

    a. CertainTeed Corp.; SoftTouch Duct Wrap.
    b. Johns Manville; Microlite.
    c. Knauf Insulation; Friendly Feel Duct Wrap.
    d. Manson Insulation Inc.; Alley Wrap.
    e. Owens Corning; SOFTR All-Service Duct Wrap.

E. Mineral-Fiber, Preformed Pipe Insulation:

1. Products: Subject to compliance with requirements, provide one of the following:

    a. Fibrex Insulations Inc.; Coreplus 1200.
    b. Johns Manville; Micro-Lok.
    c. Knauf Insulation; 1000-Degree Pipe Insulation.
    d. Manson Insulation Inc.; Alley-K.
    e. Owens Corning; Fiberglas Pipe Insulation.

2. Type I, 850 deg F Materials: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 547, Type I, Grade A, with factory-applied ASJ. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

2.2 INSULATING CEMENTS

A. Mineral-Fiber Insulating Cement: Comply with ASTM C 195.

1. Products: Subject to compliance with requirements, provide one of the following:

    a. Insulated, Division of MFS, Inc; Triple I.
    b. P.K. Insulation Mfg. Co, Inc; Super-size.

B. Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C 449.

1. Products: Subject to compliance with requirements, provide one of the following:

    a. Insulated, Division of MFS, Inc; Smooth-cote.
    b. P.K. Insulation Mfg. Co, Inc; PK No. 127. Quick-cote
    c. Rock wool Manufacturing Company; Delta one shot.

2.3 ADHESIVES

A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated, unless otherwise indicated.

B. ASJ Adhesive, and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.

1. Products: Subject to compliance with requirements, provide one of the following:

    a. Childers Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; CP-82.
    b. Eagle Bridges - Marathon Industries; 225.
    c. Foster Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; 85-20.
    d. Mon-Eco Industries, Inc.; 22-25.

2. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
3. Adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. PVC Jacket Adhesive: Compatible with PVC jacket.

1. Products: Subject to compliance with requirements, provide one of the following:

    a. Dow Corning Corporation; 739, Dow Silicone.
    b. Johns Manville; Zeston Perma-Weld, CEEL-TITE Solvent Welding Adhesive.
    c. P.I.C. Plastics, Inc.; Welding Adhesive.
    d. Speedline Corporation; Polyco VP Adhesive.

2. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
3. Adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.4 MASTICS

A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.

1. For indoor applications, use mastics that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Vapor-Barrier Mastic: Solvent based; suitable for indoor use on below-ambient services.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Childers Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; CP-30.
b. Eagle Bridges - Marathon Industries; 501.
c. Foster Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; 30-35.
d. Mon-Eco Industries, Inc.; 55-10.

2. Water-Vapor Permeance: ASTM F 1249, 0.05 perm (0.03 metric perm) at 35-mil (0.9-mm) dry film thickness.
3. Service Temperature Range: 0 to 180 deg F (Minus 18 to plus 82 deg C).
4. Solids Content: ASTM D 1644, 44 percent by volume and 62 percent by weight.
5. Color: White.

2.5 LAGGING ADHESIVES

A. Description: Comply with MIL-A-3316C, Class I, Grade A, and shall be compatible with insulation materials, jackets, and substrates.

1. For indoor applications, use lagging adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Products: Subject to compliance with requirements, provide one of the following:

a. Childers Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; CP-50 AHV2.
b. Foster Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; 30-36.
c. Vimasco Corporation; 713 and 714.

3. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over pipe insulation.
4. Service Temperature Range: 0 to plus 180 deg F (Minus 18 to plus 82 deg C).
5. Color: White.

2.6 FACTORY-APPLIED JACKETS

A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:

1. ASJ: White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I.

2. ASJ-SSL: ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip; complying with ASTM C 1136, Type I.
3. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.

2.7 FIELD-APPLIED JACKETS

A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.

B. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Thickness is indicated in field-applied jacket schedules.

1. Products: Subject to compliance with requirements, provide one of the following:

   a. Johns Manville; Zeston.
   b. P.I.C. Plastics, Inc.; FG Series.
   c. Proto Corporation; LoSmoke.
   d. Speedline Corporation; SmokeSafe.

2. Adhesive: As recommended by jacket material manufacturer.
3. Color: White.
4. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.

   a. Shapes: 45- and 90-degree, short- and long-radius elbows, tees, valves, flanges, unions, reducers, end caps, soil-pipe hubs, traps, mechanical joints, and P-trap and supply covers for lavatories.

2.8 TAPES

A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C 1136.

1. Products: Subject to compliance with requirements, provide one of the following.

   a. ABI, Ideal Tape Division; 428 AWF ASJ.
   b. Avery Dennison Corporation, Specialty Tapes Division; Fasson 0836.
   c. Compac Corporation; 104 and 105.
   d. Venture Tape; 1540 CW Plus, 1542 CW Plus, and 1542 CW Plus/SQ.

2. Width: 3 inches.
3. Thickness: 11.5 mils.
4. Adhesion: 90 ounces force/inch in width.
5. Elongation: 2 percent.
6. Tensile Strength: 40 lbf/inch in width.
7. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.

B. PVC Tape: White vapor-retarder tape matching field-applied PVC jacket with acrylic adhesive; suitable for indoor and outdoor applications.

1. Products: Subject to compliance with requirements, provide one of the following:

a. ABI, Ideal Tape Division; 370 White PVC tape.
b. Compac Corporation; 130.
c. Venture Tape; 1506 CW NS.

2. Width: 2 inches.
3. Thickness: 6 mils.
4. Adhesion: 64 ounces force/inch in width.
5. Elongation: 500 percent.
6. Tensile Strength: 18 lbf/inch in width.

2.9 SECUREMENTS

A. Bands:

1. Products: Subject to compliance with requirements, provide one of the following:

a. ITW Insulation Systems; Gerrard Strapping and Seals.
b. RPR Products, Inc.; Insul-Mate Strapping and Seals.

2. Stainless Steel: ASTM A 167 or ASTM A 240/A 240M, Type 304 or Type 316; 0.015 inch thick, 1/2 inch wide with wing seal.

B. Staples: Outward-clinching insulation staples, nominal 3/4-inch- wide, stainless steel or Monel.

C. Wire: 0.062-inch soft-annealed, stainless steel.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. C & F Wire.

2.10 PROTECTIVE SHIELDING GUARDS

A. Protective Shielding Pipe Covers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Insul-Tect Products Co.; a subsidiary of MVG Molded Products.
b. McGuire Manufacturing.
c. Plumberex.
d. Truebro; a brand of IPS Corporation.
e. Zurn Industries, LLC; Tubular Brass Plumbing Products Operation.

2. Description: Manufactured plastic wraps for covering plumbing fixture hot- and cold-water supplies and trap and drain piping. Comply with Americans with Disabilities Act (ADA) requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.

1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

B. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless-steel surfaces, use demineralized water.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and specialties.

B. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of pipe system as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.

G. Keep insulation materials dry during application and finishing.

H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

I. Install insulation with least number of joints practical.

J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

1. Install insulation continuously through hangers and around anchor attachments.
2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

L. Install insulation with factory-applied jackets as follows:

1. Draw jacket tight and smooth.
2. Cover circumferential joints with 3-inch wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
3. Overlap jacket longitudinal seams at least 1-1/2 inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches o.c.

    a. For below-ambient services, apply vapor-barrier mastic over staples.

4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.

M. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.

N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

P. For above-ambient services, do not install insulation to the following:

1. Testing agency labels and stamps.
2. Nameplates and data plates.
3. Cleanouts.

3.4 GENERAL PIPE INSULATION INSTALLATION

A. Requirements in this article generally apply to all insulation materials except where more specific requirements are specified in various pipe insulation material installation articles.

B. Insulation Installation on Fittings, Valves, Strainers, Flanges, and Unions:

1. Install insulation over fittings, valves, strainers, flanges, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
2. Insulate pipe elbows using preformed fitting insulation or mitered fittings made from same material and density as adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.
3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
5. Insulate strainers using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. Fill joints, seams, and irregular surfaces with insulating cement. Insulate strainers so strainer basket flange or plug can be easily removed and replaced without damaging the insulation and jacket. Provide a removable reusable insulation cover. For below-ambient services, provide a design that maintains vapor barrier.
6. Insulate unions using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker.
7. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
8. For services not specified to receive a field-applied jacket, install fitted PVC cover over elbows, tees, strainers, valves, flanges, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing using PVC tape.

C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.

D. Install removable insulation covers at locations indicated. Installation shall conform to the following:

1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as adjoining pipe insulation.
2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union long at least two times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless-steel or aluminum bands. Select band material compatible with insulation and jacket.
3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.
4. When covers are made from block insulation, make two halves, each consisting of mitered blocks wired to stainless-steel fabric. Secure this wire frame, with its attached insulation, to flanges with tie wire. Extend insulation at least 2 inches (50 mm) over adjacent pipe insulation on each side of valve. Fill space between flange or union cover and pipe insulation with insulating cement. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.

E. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as straight segments of pipe insulation when available. Secure according to manufacturer's written instructions.
2. When preformed sections of insulation are not available, install mitered sections of cellular-glass insulation. Secure insulation materials with wire or bands.

3.5 FIELD-APPLIED JACKET INSTALLATION

A. Where PVC jackets are indicated, install with 1-inch (25-mm) overlap at longitudinal seams and end joints. Seal with manufacturer's recommended adhesive.

1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.

3.6 FINISHES

A. Insulation with ASJ, Glass-Cloth, or Other Paintable Jacket Material: Paint jacket with paint system identified below.

1. Flat Acrylic Finish: Two finish coats over a primer that is compatible with jacket material and finish coat paint. Add fungicidal agent to render fabric mildew proof.

a. Finish Coat Material: Interior, flat, latex-emulsion size.

B. Color: Final color as selected by Architect. Vary first and second coats to allow visual inspection of the completed Work.

3.7 PIPING INSULATION SCHEDULE, GENERAL

A. Items Not Insulated: Unless otherwise indicated, do not install insulation on the following:

1. Underground piping.
2. Chrome-plated pipes and fittings unless there is a potential for personnel injury.

3.8 INDOOR PIPING INSULATION SCHEDULE

A. Domestic Cold Water (Potable and Non-potable):

1. All pipe sizes: Insulation shall be the following:

a. Mineral Fiber: 1 inch thick with ASJ.

B. Domestic Hot Water and Recirculated Hot Water (Potable and Non-potable):

1. Pipe sizes 1 ¼" and down: Insulation shall be the following:

a. Mineral Fiber: 1 inch thick with ASJ.

2. Pipe sizes 1 ½" and 2": Insulation shall be the following:

a. Mineral Fiber: 1 ½" inch thick with ASJ.

C. Storm Piping (Horizontal and Vertical) and Roof Drain Bodies:

1. Pipe sizes 6" and down: Insulation shall be the following:

a. Mineral Fiber: 1 inch thick with ASJ.

2. Pipe sizes 8" and up: Insulation shall be the following:

a. Mineral Fiber: 1 ½" inch thick with ASJ.

D. Exposed Sanitary Drains, Domestic Water, Domestic Hot Water, and Stops for Plumbing Fixtures for People with Disabilities:

1. All Pipe Sizes: Insulation shall be the following:

a. Protective Shielding Pipe Covers

3.9 INDOOR, FIELD-APPLIED JACKET SCHEDULE

A. Install jacket over insulation material. For insulation with factory-applied jacket, install the field-applied jacket over the factory-applied jacket.

B. If more than one material is listed, selection from materials listed is Contractor's option.

C. Piping, Concealed:

1. None.

D. Piping, Exposed:

1. PVC: 20 mils thick.

END OF SECTION 220719

SECTION 22 11 16 - DOMESTIC WATER PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Copper tube and fittings.
2. Ductile-iron pipe and fittings.
3. Piping joining materials.
4. Encasement for piping.
5. Transition fittings.
6. Dielectric fittings.

B. Related Requirements:

1. Section 331000 "Water Utilities" for water-service piping outside the building from source to the point where water-service piping enters the building.

1.3 ACTION SUBMITTALS

1.4 Product Data: ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.

1.5 INFORMATIONAL SUBMITTALS

A. System purging and disinfecting activities report.

B. Field quality-control reports.

1.6 FIELD CONDITIONS

A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions:

1. Notify Construction Manager no fewer than three working days in advance of proposed interruption of water service.
2. Do not interrupt water service without Construction Manager's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

B. Potable-water piping and components shall comply with NSF 14, NSF 61 and NSF 372.

2.2 COPPER TUBE AND FITTINGS

A. Drawn-Temper Copper Tubing: ASTM B 88, Type L.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Mueller Industries.
b. Cambridge-Lee Industries.
c. Cerro Flow Products

B. Soft Copper Tubing, Annealed Temper: ASTM B 88, Type K.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Mueller Industries.
b. Cambridge-Lee Industries.
c. Cerro Flow Products

C. Wrought-Copper Fittings: ASME B16.22.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. NIBCO.
b. Elkhart Products Corporation
c. Cello Products.

2. MSS SP-123.

3. Cast-copper-alloy, hexagonal-stock body.
4. Ball-and-socket, metal-to-metal seating surfaces.
5. Solder-joint or threaded ends.
6. Cast-Copper, Solder-Joint Fittings: ASME B16.18, pressure fittings.
7. Wrought-Copper, Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.
8. Bronze Flanges: ASME B16.24, Class 150, with solder-joint ends.

2.3 DUCTILE-IRON PIPE AND FITTINGS

A. Mechanical-Joint, Ductile-Iron Pipe:

1. AWWA C151/A21.51, with mechanical-joint bell and plain spigot end.
2. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

B. Standard-Pattern, Mechanical-Joint Fittings:

1. AWWA C110/A21.10, ductile or gray iron.
2. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

C. Compact-Pattern, Mechanical-Joint Fittings:

1. AWWA C153/A21.53, ductile iron.
2. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

D. Plain-End, Ductile-Iron Pipe: AWWA C151/A21.51.

2.4 PIPING JOINING MATERIALS

A. Pipe-Flange Gasket Materials:

1. AWWA C110/A21.10, rubber, flat face, 1/8 inch (3.2 mm) thick or ASME B16.21, nonmetallic and asbestos free unless otherwise indicated.
2. Full-face or ring type unless otherwise indicated.

B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

C. Solder Filler Metals: ASTM B32, lead-free alloys.

D. Flux: ASTM B813, water flushable.

2.5 ENCASEMENT FOR PIPING

A. Standard: ASTM A674 or AWWA C105/A21.5.

B. Form: Sheet or tube.

C. Color: Black.

2.6 DIELECTRIC FITTINGS

A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions:

1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

a. Matco-Norca.
b. McDonald, A. Y. Mfg. Co.
c. Watts; a division of Watts Water Technologies, Inc.
d. Wilkins; a Zurn company.

2. Standard: ASSE 1079.
3. Pressure Rating: 125 psig minimum at 180 deg F.
4. End Connections: Solder-joint copper alloy and threaded ferrous.

C. Dielectric Nipples:

1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

a. Elster Perfection Corporation.
b. Grinnell Mechanical Products; Tyco Fire Products LP.
c. Matco-Norca.
d. Precision Plumbing Products, Inc.
e. Victaulic Company.

2. Standard: IAPMO PS 66.
3. Electroplated steel nipple complying with ASTM F 1545.
4. Pressure Rating and Temperature: 300 psig at 225 deg F.
5. End Connections: Male threaded.
6. Lining: Inert and noncorrosive, propylene.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Comply with requirements in Section 312000 "Earth Moving" site work for excavating, trenching, and backfilling.

3.2 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

B. Install copper tubing under building slab according to CDA's "Copper Tube Handbook."

C. Install ductile-iron piping under building slab with restrained joints according to AWWA C600 and AWWA M41.

D. Install underground ductile-iron pipe in PE encasement according to ASTM A674 or AWWA C105/A21.5.

E. Install shutoff valve, hose-end drain valve, strainer, pressure gage, and test tee with valve inside the building at each domestic water-service entrance. Comply with requirements for drain valves and strainers in Section 221119 "Domestic Water Piping Specialties."

F. Install shutoff valve immediately upstream of each dielectric fitting.

G. Install domestic water piping level and plumb.

H. Rough-in domestic water piping for water-meter installation according to utility company's requirements.

I. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

J. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

K. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.

L. Install piping to permit valve servicing.

M. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than the system pressure rating used in applications below unless otherwise indicated.

N. Install piping free of sags and bends.

O. Install fittings for changes in direction and branch connections.

P. Install unions in copper tubing at final connection to each piece of equipment, machine, and specialty.

Q. Install thermometers on inlet and outlet piping from each water heater.

R. Install escutcheons for piping penetrations of walls, and ceilings.

3.3 JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

B. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

D. Soldered Joints for Copper Tubing: Apply ASTM B 813, water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B 828 or CDA's "Copper Tube Handbook."

E. Joints for Dissimilar-Material Piping: Make joints using adapters compatible with materials of both piping systems.

F. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts according to ASME B31.9.

3.4 DIELECTRIC FITTING INSTALLATION

A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.

B. Dielectric Fittings for NPS 2 and Smaller: Use dielectric couplings, nipples, or unions.

3.5 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hanger, support products, and installation in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

1. Vertical Piping: MSS Type 8 or 42, clamps.
2. Individual, Straight, Horizontal Piping Runs:

    a. 100 Feet (30 m) and Less: MSS Type 1, adjustable, steel clevis hangers.

B. Support vertical piping and tubing at base and at each floor.

C. Rod diameter may be reduced one size for double-rod hangers, to a minimum of 3/8 inch.

D. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 3/4 and Smaller: 60 inches with 3/8-inch rod.
2. NPS 1 and NPS 1-1/4: 72 inches with 3/8-inch rod.
3. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inch rod.
4. NPS 3 and NPS 4: 10 feet with 1/2-inch rod.

E. Install supports for vertical copper tubing every 10 feet.

3.6 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. When installing piping adjacent to equipment and machines, allow space for service and maintenance.

C. Connect domestic water piping to exterior water-service piping. Use transition fitting to join dissimilar piping materials.

D. Connect domestic water piping to water-service piping with shutoff valve; extend and connect to the following:

1. Water Heaters: Cold-water inlet and hot-water outlet piping in sizes indicated, but not smaller than sizes of water heater connections.
2. Plumbing Fixtures: Cold- and hot-water-supply piping in sizes indicated, but not smaller than that required by plumbing code.
3. Equipment: Cold- and hot-water-supply piping as indicated, but not smaller than equipment connections. Provide shutoff valve and union for each connection.

3.7 IDENTIFICATION

A. Identify system components. Comply with requirements for identification materials and installation in Section 220553 "Identification for Plumbing Piping and Equipment."

3.8 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Piping Inspections:

a. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
b. During installation, notify authorities having jurisdiction at least two days before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:

1) Roughing-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures.
2) Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements.

c. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
d. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

2. Piping Tests:

a. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.
b. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
c. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.
d. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
e. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
f. Prepare reports for tests and for corrective action required.

B. Domestic water piping will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.9 ADJUSTING

A. Perform the following adjustments before operation:

1. Close drain valves, hydrants, and hose bibbs.
2. Open shutoff valves to fully open position.
3. Open throttling valves to proper setting.
4. Remove plugs used during testing of piping and for temporary sealing of piping during installation.
5. Remove and clean strainer screens. Close drain valves and replace drain plugs.
6. Remove filter cartridges from housings and verify that cartridges are as specified for application where used and are clean and ready for use.
7. Check plumbing specialties and verify proper settings, adjustments, and operation.

3.10 CLEANING

A. Clean and disinfect potable domestic water piping as follows:

1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:

a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
b. Fill and isolate system according to either of the following:

1) Fill system or part thereof with water/chlorine solution with at least 50 ppm chlorine. Isolate with valves and allow to stand for 24 hours.
2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for three hours.

c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
d. Repeat procedures if biological examination shows contamination.
e. Submit water samples in sterile bottles to third party testing lab. Then provide report to authorities having jurisdiction for approval.

B. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.

C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

3.11 PIPING SCHEDULE

A. Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

B. Flanges and unions may be used for aboveground piping joints unless otherwise indicated.

C. Under-building-slab, domestic water, piping, NPS 4 and smaller, be the following:

1. Mechanical-joint, ductile-iron pipe; standard pattern, mechanical-joint fittings; and mechanical joints.

D. Aboveground domestic water piping, NPS 4 and smaller, shall be the following:

1. Hard copper tube, ASTM B 88, Type L; wrought-copper, solder-joint fittings; and soldered joints. Retain "one of" option in paragraph below to allow Contractor to select piping materials from those retained.

END OF SECTION 221116

SECTION 22 11 19 - DOMESTIC WATER PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Backflow preventers.
   2. Water Pressure Reducing Valves
   3. Strainers.
   4. Trap Seal Protection Device

B. Related Requirements:

   1. Section 221116 "Domestic Water Piping".

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For domestic water piping specialties.

   1. Include diagrams for power, signal, and control wiring.

C. Provide valve and hydronic specialties schedule indicating type of intended installation and installation location. Refer to schedule below.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For domestic water piping specialties to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PIPING SPECIALTIES

A. Potable-water piping and components shall comply with NSF 61 and NSF 14.

2.2 PERFORMANCE REQUIREMENTS

A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig unless otherwise indicated.

2.3 BACKFLOW PREVENTERS

A. Reduced-Pressure-Principle Backflow Preventers:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

    a. Conbraco Industries, Inc.
    b. Watts; a division of Watts Water Technologies, Inc.; Watts Regulator Company.
    c. Zurn Industries, LLC; Plumbing Products Group; Wilkins Water Control Products.

2. Standard: ASSE 1013.
3. Operation: Continuous-pressure applications.
4. Pressure Loss: 12 psig maximum, through middle third of flow range.
5. Size: As shown on drawings
6. Body: Bronze
7. End Connections: Threaded and Flanged.
8. Configuration: Designed for horizontal, straight-through flow.
9. Accessories:

    a. Valves: Ball type with threaded ends on inlet and outlet.
    b. Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection.

2.4 WATER PRESSURE-REDUCING VALVES

A. Water Regulators:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Cash Acme; a division of Reliance Worldwide Corporation.
    b. Conbraco Industries, Inc.
    c. Honeywell International Inc.
    d. Watts; a division of Watts Water Technologies, Inc.; Watts Regulator Company.
    e. Zurn Industries, LLC; Plumbing Products Group; Wilkins Water Control Products.

2. Standard: ASSE 1003.
3. Pressure Rating: Initial working pressure of 150 psig.
4. Size: Refer to schedule on drawings.
5. Design Flow Rate: 3-30 gpm
6. Design Inlet Pressure: 60 psig.
7. Design Outlet Pressure Setting: 45 psig.
8. Body: Bronze.
9. End Connections: Threaded.

2.5 STRAINERS FOR DOMESTIC WATER PIPING

A. Y-Pattern Strainers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Mueller
   b. Watts.
   c. Zurn

2. Pressure Rating: 125 psig minimum unless otherwise indicated.
3. Body: Bronze for NPS 2 and smaller.
4. End Connections: Threaded for NPS 2 and smaller.
5. Screen: Stainless steel with round perforations unless otherwise indicated.
6. Perforation Size:

   a. Strainers NPS 2 and Smaller: 0.020 inch.

7. Drain: Factory-installed, hose-end drain valve.

2.6 TRAP SEAL PROTECTION DEVICES

A. Barrier Type Trap Seal Protection Devices:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

   a. ProVent Plumbing Systems Inc.
   b. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
   c. Sure Seal Manufacturing

2. Standard: ASSE 1072-2007.
3. Body: ASB Plastic
4. Diaphragm & Sealing Gasket: Neoprene Rubber
5. Size: Based on floor drain size.
6. Gravity Drain Outlet Connection: Compression fit sealing gasket 80 durometer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Comply with authorities having jurisdiction.

1. Locate backflow preventers in same room as connected equipment or system.
2. Do not install bypass piping around backflow preventers.

B. Install water pressure regulators with inlet and outlet shutoff valves. Install pressure gages on inlet and outlet.

C. Install Y-pattern strainers for water on supply side of each pump and where shown on drawings.

D. Install supply-type, trap-seal primer valves with outlet piping pitched down toward drain trap a minimum of 1 percent, and connect to floor-drain body, trap, or inlet fitting. Adjust valve for proper flow.

3.2 CONNECTIONS

A. Comply with requirements for ground equipment in Section 260526 "Grounding and Bonding for Electrical Systems."

3.3 LABELING AND IDENTIFYING

A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each of the following:

1. Reduced-pressure-principle backflow preventers.
2. Water pressure-reducing valves.
3. Non-potable Water Hose stations.
4. Supply-type, trap-seal primer valves.

B. Distinguish among multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations, in addition to identifying unit. Nameplates and signs are specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.4 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Test each backflow preventer and pressure vacuum breaker according to authorities having jurisdiction and the device's reference standard.

B. Domestic water piping specialties will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.5 ADJUSTING

A. Set field-adjustable pressure set points of water pressure-reducing valves.

B. Set field-adjustable flow set points of balancing valves.

C. Set field-adjustable temperature set points of temperature-actuated, water mixing valves.

END OF SECTION 221119

SECTION 22 13 16 - SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe, tube, and fittings.
2. Specialty pipe fittings.

B. Related Sections:

1. Section 333000 "Sanitary Sewer System" for sanitary sewerage piping and structures outside the building.

1.3 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

1. Soil, Waste, Vent and Radon Exhaust Piping: 10-foot head of water.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.

1.5 PROJECT CONDITIONS

A. Interruption of Existing Sanitary Waste Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Construction Manager no fewer than three working days in advance of proposed interruption of sanitary waste service.

2. Do not proceed with interruption of sanitary waste service without Construction Manager's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

B. Cast iron soil pipe and fittings shall be marked with the collective trademark of the cast iron soil pipe institute, and be listed by NSF International

2.2 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 888 or CISPI 301.

B. Sovent Stack Fittings: ASME B16.45 or ASSE 1043, hubless, cast-iron aerator and deaerator drainage fittings.

C. CISPI, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. ANACO-Husky.
   b. Fernco Inc.
   c. MIFAB, Inc.
   d. Mission Rubber Company; a division of MCP Industries, Inc.
   e. Tyler Pipe.

2. Standards: ASTM C 1277 and CISPI 310.
3. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.3 PVC PIPE AND FITTINGS

A. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.

B. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.

C. Adhesive Primer: ASTM F 656.

1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2. Adhesive primer shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

D. Solvent Cement: ASTM D 2564.

1. PVC solvent cement shall have a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Solvent cement shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.4 COPPER TUBE AND FITTINGS

A. DWV Copper Tubing:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Mueller Industries.
    b. Cambridge-Lee Industries.
    c. Cerro Flow Products

2. Standards: ASTM B 306, Type DWV
3. Description: Drainage tube, drawn temper.

B. Copper Drainage Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Mueller Industries.
    b. NIBCO.
    c. Elkhart Products Corporation
    d. Cello Products.

2. Standards: ASME B16.23 or ASME B16.29.
3. Description: Cast copper or wrought copper, solder-joint fittings.

C. Solder: ASTM B 32, lead free with ASTM B 813, water-flushable flux.

2.5 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in OD's or of different materials. Include end connections same size as and compatible with pipes to be joined.

2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.

3. Shielded, Nonpressure Transition Couplings:

    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

        1) Cascade Waterworks Mfg. Co.
        2) Mission Rubber Company; a division of MCP Industries, Inc.

    b. Standard: ASTM C 1460.
    c. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

4. Pressure Transition Couplings:

    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

        1) Cascade Waterworks Mfg. Co.
        2) Dresser, Inc.
        3) Smith-Blair, Inc.; a Sensus company.
        4) The Ford Meter Box Company, Inc.
        5) Viking Johnson.

    b. Standard: AWWA C219.
    c. Description: Metal, sleeve-type same size as, with pressure rating at least equal to, and ends compatible with, pipes to be joined.
    d. Center-Sleeve Material: Manufacturer's standard.
    e. Gasket Material: Natural or synthetic rubber.
    f. Metal Component Finish: Corrosion-resistant coating or material.

B. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric Unions:

    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

        1) Capitol Manufacturing Company.
        2) Central Plastics Company.
        3) Hart Industries International, Inc.
        4) Jomar International Ltd.
        5) Matco-Norca, Inc.
        6) McDonald, A. Y. Mfg. Co.

7) Watts Regulator Co.; a division of Watts Water Technologies, Inc.
8) Wilkins; a Zurn company.

b. Description:

1) Standard: ASSE 1079.
2) Pressure Rating: 125 psig minimum at 180 deg F
3) End Connections: Solder-joint copper alloy and threaded ferrous.

3. Dielectric Flanges:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Capitol Manufacturing Company.
2) Central Plastics Company.
3) Matco-Norca, Inc.
4) Watts Regulator Co.; a division of Watts Water Technologies, Inc.
5) Wilkins; a Zurn company.

b. Description:

1) Standard: ASSE 1079.
2) Factory-fabricated, bolted, companion-flange assembly.
3) Pressure Rating: 125 psig minimum at 180 deg F.
4) End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

4. Dielectric-Flange Insulating Kits:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Advance Products & Systems, Inc.
2) Calpico, Inc.
3) Central Plastics Company.
4) Pipeline Seal and Insulator, Inc.

b. Description:

1) Nonconducting materials for field assembly of companion flanges.
2) Pressure Rating: 150 psig.
3) Gasket: Neoprene or phenolic.
4) Bolt Sleeves: Phenolic or polyethylene.
5) Washers: Phenolic with steel backing washers.

5. Dielectric Nipples:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Elster Perfection.
2) Grinnell Mechanical Products.
3) Matco-Norca, Inc.
4) Precision Plumbing Products, Inc.
5) Victaulic Company.

b. Description:

1) Standard: IAPMO PS 66
2) Electroplated steel nipple.
3) Pressure Rating: 300 psig at 225 deg F.
4) End Connections: Male threaded or grooved.
5) Lining: Inert and noncorrosive, propylene.

PART 3 - EXECUTION

3.1 EARTH MOVING

A. Comply with requirements for excavating, trenching, and backfilling specified in Section 312000 "Earth Moving" Site Work.

3.2 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping to permit valve servicing.

F. Install piping at indicated slopes.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Install piping to allow application of insulation.

J. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if two fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent and Radon lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

K. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

L. Install soil and waste drainage and vent piping at the following minimum slopes unless otherwise indicated:

1. Building Sanitary Drain: 2 percent downward in direction of flow for piping NPS 3 and smaller; 1 percent downward in direction of flow for piping NPS 4 and larger.
2. Horizontal Sanitary Drainage Piping: 2 percent downward in direction of flow.
3. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.
4. Radon Piping: Piping does not require slope.

M. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

N. Install underground PVC piping according to ASTM D 2321.

O. Install aboveground copper tubing according to CDA's "Copper Tube Handbook."

P. Plumbing Specialties:

1. Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers in sanitary drainage gravity-flow piping. Comply with requirements for cleanouts specified in Section 221319 "Sanitary Waste Piping Specialties."
2. Install drains in sanitary drainage gravity-flow piping. Comply with requirements for drains specified in Section 221319 "Sanitary Waste Piping Specialties."

Q. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

R. Install sleeves for piping penetrations of walls, ceilings, floors, and passing under foundation. Where pipes pass through or under a foundation wall provide sleeves two pipe sizes larger than carrier pipe.

S. Install sleeve seals for piping penetrations of concrete walls and slabs.

T. Install escutcheons for piping penetrations of walls and ceilings.

3.3 JOINT CONSTRUCTION

A. Join hubless, cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

B. Join copper tube and fittings with soldered joints according to ASTM B 828. Use ASTM B 813, water-flushable, lead-free flux and ASTM B 32, lead-free-alloy solder.

C. Flanged Joints: Align bolt holes. Select appropriate gasket material, size, type, and thickness. Install gasket concentrically positioned. Use suitable lubricants on bolt threads. Torque bolts in cross pattern.

D. Plastic, Nonpressure-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
2. PVC Piping: Join according to ASTM D 2855 and ASTM D 2665 Appendixes.

3.4 SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in OD's.
2. In Drainage Piping: Shielded, nonpressure transition couplings.

B. Dielectric Fittings:

1. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
2. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples or unions.
3. Dielectric Fittings for NPS 2-1/2 to NPS 6: Use dielectric flange kits or nipples.

3.5 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hanger and support devices and installation specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
2. Install carbon-steel pipe support clamps for vertical piping.
3. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
4. Vertical Piping: MSS Type 8 or Type 42, clamps.
5. Install individual, straight, horizontal piping runs:

    a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
    b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
    c. Longer Than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.

6. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
7. Base of Vertical Piping: MSS Type 52, spring hangers.

B. Support horizontal piping and tubing within 12 inches of each fitting and coupling.

C. Support vertical piping and tubing at base and at each floor.

D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.

E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
2. NPS 3: 60 inches with 1/2-inch rod.
3. NPS 4 and NPS 5: 60 inches with 5/8-inch rod.
4. NPS 6 and NPS 8: 60 inches with 3/4-inch rod.
5. NPS 10 and NPS 12: 60 inches with 7/8-inch rod.
6. Spacing for 10-foot lengths may be increased to 10 feet. Spacing for fittings is limited to 60 inches.

F. Install supports for vertical cast-iron soil piping every 15 feet.

G. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/4: 72 inches with 3/8-inch rod.
2. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inch rod.

H. Install supports for vertical copper tubing every 10 feet.

I. Install hangers for PVC piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2: 48 inches with 3/8-inch rod.
2. NPS 3: 48 inches with 1/2-inch rod.
3. NPS 4 and NPS 5: 48 inches (1200 mm) with 5/8-inch (16-mm) rod.

J. Install supports for vertical PVC piping every 10 feet.

K. Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

3.6 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.

C. Connect drainage and vent piping to the following:

1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code.
2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.
4. Comply with requirements for cleanouts and drains specified in Section 221319 "Sanitary Waste Piping Specialties."
5. Equipment: Connect drainage piping as indicated. Provide shutoff valve if indicated and union for each connection. Use flanges instead of unions for connections NPS 2-1/2 and larger.

D. Where installing piping adjacent to equipment, allow space for service and maintenance of equipment.

3.7 IDENTIFICATION

A. Identify exposed sanitary waste and vent piping. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.8 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 48 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.

1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
3. Roughing-in Plumbing Test Procedure: Test drainage and vent piping except outside leaders on completion of roughing-in. Close openings in piping system and fill with

water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts to completion of inspection, water level must not drop. Inspect joints for leaks.

4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg. Use U-tube or manometer inserted in trap of water closet to measure this pressure. Air pressure must remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.
5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
6. Prepare reports for tests and required corrective action.

3.9 CLEANING AND PROTECTION

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.10 PIPING SCHEDULE

A. Aboveground, soil, waste and vent piping NPS 4 and smaller shall be any of the following:

1. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints. (Plenum Ceilings)
2. Copper DWV tube, copper drainage fittings, and soldered joints.
3. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

B. Underground soil, waste, vent venting piping shall be the following:

1. Solid-wall PVC pipe, PVC socket fittings, and solvent-cemented joints.
2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.Retain "any of" option in first paragraph below to allow Contractor to retain piping materials from those retained. Retain "any of" option in first paragraph below to allow Contractor to retain piping materials from those retained. Retain "any of" option in first paragraph below to allow Contractor to retain piping materials from those retained. Retain "any of" option in first paragraph below to allow Contractor to retain piping materials from those retained. Retain "any of" option in first paragraph below to allow Contractor to retain piping materials from those retained. Retain "any of" option in paragraph below to allow Contractor to retain piping materials from those retained.

END OF SECTION 221316

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cleanouts.
2. Floor drains.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and accessories for the following:

1. Cleanouts
2. Floor drains

B. Shop Drawings: Show fabrication and installation details for frost-resistant vent terminals.

1. Wiring Diagrams: Power, signal, and control wiring.

C. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For drainage piping specialties to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic sanitary piping specialty components.

1.6 COORDINATION

A. Coordinate size and location of roof penetrations.

PART 2 - PRODUCTS

2.1 CLEANOUTS

A. Exposed Metal Cleanouts:

1. ASME A112.36.2M, Cast-Iron Cleanouts:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) MIFAB, Inc.
2) Mea-Josam
3) Watts Drainage Products.
4) Zurn Plumbing Products Group.

2. Refer to schedule on drawings

2.2 FLOOR DRAINS

A. Cast-Iron Floor Drains:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. MIFAB, Inc.
b. Mea-Josam
c. Watts Drainage Products.
d. Zurn Plumbing Products Group;

2. Refer to schedule on drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:

1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 45 degrees.
3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.

B. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

C. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.

1. Position floor drains for easy access and maintenance.
2. Set floor drains below elevation of surrounding finished floor to allow floor drainage. Set with grates depressed according to the following drainage area radii:

   a. Radius, 30 Inches or Less: Equivalent to 1 percent slope, but not less than 1/4-inch total depression.
   b. Radius, 30 to 60 Inches: Equivalent to 1 percent slope.
   c. Radius, 60 Inches or Larger: Equivalent to 1 percent slope, but not greater than 1-inch total depression.

3. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.

D. Install air-gap fittings on draining-type backflow preventers and on indirect-waste piping discharge into sanitary drainage system.

E. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is indicated.

3.2 CONNECTIONS

A. Comply with requirements in Section 221316 "Sanitary Waste and Vent Piping" for piping installation requirements. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to equipment to allow service and maintenance.

C. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.3 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.

2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.4 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221319

SECTION 22 14 13 - STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe, tube, and fittings.
2. Specialty pipe fittings.
3. Encasement for underground metal piping.

1.3 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

1. Storm Drainage Piping: 10-foot head of water.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.5 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.7 PROJECT CONDITIONS

A. Interruption of Existing Storm-Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Owner no fewer than three working days in advance of proposed interruption of storm-drainage service.
2. Do not proceed with interruption of storm-drainage service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

B. Cast iron soil pipe and fittings shall be marked with the collective trademark of the cast iron soil pipe institute, and be listed by NSF International

2.2 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 888 or CISPI 301.

B. CISPI, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. ANACO-Husky.
    b. Fernco Inc.
    c. MIFAB, Inc.
    d. Mission Rubber Company; a division of MCP Industries, Inc.
    e. Tyler Pipe.

2. Standards: ASTM C 1277 and CISPI 310.
3. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.3 PVC PIPE AND FITTINGS

A. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.

B. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.

C. Adhesive Primer: ASTM F 656.

1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2. Adhesive primer shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

D. Solvent Cement: ASTM D 2564.

1. PVC solvent cement shall have a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Solvent cement shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.4 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in OD's or of different materials. Include end connections same size as and compatible with pipes to be joined.
2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified-piping-system fitting.

3. Shielded, Nonpressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Cascade Waterworks Mfg. Co.
2) Mission Rubber Company; a division of MCP Industries, Inc.

b. Standard: ASTM C 1460.
c. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

4. Pressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Cascade Waterworks Mfg. Co.
2) Dresser, Inc.
3) EBAA Iron, Inc.
4) Ford Meter Box Company, Inc. (The)
5) JCM Industries, Inc.
6) Romac Industries, Inc.
7) Smith-Blair, Inc.; a Sensus company.
8) Viking Johnson; c/o Mueller Co.

b. Standard: AWWA C219.
c. Description: Metal, sleeve-type couplings same size as, with pressure rating at least equal to and ends compatible with, pipes to be joined.
d. Center-Sleeve Material: Ductile iron.
e. Gasket Material: Natural or synthetic rubber.
f. Metal Component Finish: Corrosion-resistant coating or material.

B. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric-Flange Insulating Kits:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Advance Products & Systems, Inc.
2) Calpico, Inc.
3) Central Plastics Company.
4) Pipeline Seal and Insulator, Inc.

b. Description:

1) Nonconducting materials for field assembly of companion flanges.
2) Pressure Rating: 150 psig.
3) Gasket: Neoprene or phenolic.
4) Bolt Sleeves: Phenolic or polyethylene.
5) Washers: Phenolic with steel-backing washers.

3. Dielectric Nipples:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Elster Perfection.
2) Grinnell Mechanical Products.
3) Matco-Norca, Inc.
4) Precision Plumbing Products, Inc.
5) Victaulic Company.

b. Description:

1) Electroplated steel nipple complying with ASTM F 1545.
2) Pressure Rating: 300 psig at 225 deg F.
3) End Connections: Male threaded or grooved.
4) Lining: Inert and noncorrosive, propylene.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations from layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping at indicated slopes.

F. Install piping free of sags and bends.

G. Install fittings for changes in direction and branch connections.

H. Install piping to allow application of insulation.

I. Make changes in direction for storm drainage piping using appropriate branches, bends, and long-sweep bends. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

J. Lay buried building storm drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

K. Install storm drainage piping at the following minimum slopes unless otherwise indicated:

1. Building Storm Drain: 2 percent downward in direction of flow for piping NPS 2-1/2 and smaller; 1 percent downward in direction of flow for piping NPS 3 and larger.

L. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

M. Install underground PVC piping according to ASTM D 2321.

N. Plumbing Specialties:

1. Install cleanouts at grade and extend to where building storm drains connect to building storm sewers in storm drainage gravity-flow piping. Install cleanout fitting with closure plug inside the building in storm drainage force-main piping. Comply with requirements for cleanouts specified in Section 221423 "Storm Drainage Piping Specialties."
2. Install drains in storm drainage gravity-flow piping. Comply with requirements for drains specified in Section 221423 "Storm Drainage Piping Specialties."

O. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

P. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

Q. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

R. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 220518 "Escutcheons for Plumbing Piping."

3.2 JOINT CONSTRUCTION

A. Hubless, Cast-Iron Soil Piping Coupled Joints: Join according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

B. Plastic, Nonpressure-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
2. PVC Piping: Join according to ASTM D 2855 and ASTM D 2665 Appendixes.

3.3 SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in OD's.
2. In Drainage Piping: Shielded, nonpressure transition couplings.

B. Dielectric Fittings:

1. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
2. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples.
3. Dielectric Fittings for NPS 2-1/2 to NPS 4: Use dielectric flange kits or nipples.
4. Dielectric Fittings for NPS 5 and Larger: Use dielectric flange kits.

3.4 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hanger and support devices and installation specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
2. Install carbon-steel pipe support clamps for vertical piping in noncorrosive environments.
3. Vertical Piping: MSS Type 8 or Type 42, clamps.
4. Individual, Straight, Horizontal Piping Runs:

    a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
    b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.

5. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
6. Base of Vertical Piping: MSS Type 52, spring hangers.

B. Support horizontal piping and tubing within 12 inches of each fitting and coupling.

C. Support vertical piping and tubing at base and at each floor.

D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.

E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
2. NPS 3: 60 inches with 1/2-inch rod.
3. NPS 4 and NPS 5: 60 inches with 5/8-inch rod.
4. NPS 6 and NPS 8: 60 inches with 3/4-inch rod.
5. NPS 10 and NPS 12: 60 inches with 7/8-inch rod.
6. Spacing for 10-foot pipe lengths may be increased to 10 feet. Spacing for fittings is limited to 60 inches.

F. Install supports for vertical cast-iron soil piping every 15 feet.

G. Install hangers for PVC piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2: 48 inches with 3/8-inch rod.
2. NPS 3: 48 inches with 1/2-inch rod.
3. NPS 4 and NPS 6: 48 inches with 5/8-inch rod.

H. Install supports for vertical PVC piping every 10 feet.

3.5 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect interior storm drainage piping to exterior storm drainage piping. Use transition fitting to join dissimilar piping materials.

C. Connect storm drainage piping to roof drains and storm drainage specialties.

1. Install test tees (wall cleanouts) in conductors near floor, and floor cleanouts with cover flush with floor.
2. Comply with requirements for cleanouts and drains specified in Section 221423 "Storm Drainage Piping Specialties."

3.6 IDENTIFICATION

A. Identify exposed storm drainage piping. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.7 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.

1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test storm drainage piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced storm drainage piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
3. Test Procedure: Test storm drainage piping on completion of roughing-in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts until completion of inspection, water level must not drop. Inspect joints for leaks.
4. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
5. Prepare reports for tests and required corrective action.

3.8 CLEANING

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.9 PIPING SCHEDULE

A. Flanges and unions may be used on aboveground pressure piping unless otherwise indicated.

B. Aboveground storm drainage piping shall be any of the following:

1. Hubless, cast-iron soil pipe and fittings; CISPI, hubless-piping couplings; and coupled joints. (Plenum Ceilings)
2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

C. Underground storm drainage piping shall be any of the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Solid-wall PVC pipe, PVC socket fittings, and solvent-cemented joints.
3. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.Retain "any of" option in first paragraph below to allow Contractor to select piping materials from those retained. Retain "any of" option in first paragraph below to allow Contractor to select piping materials from those retained. Retain "any of" option in paragraph below to allow Contractor to select piping materials from those retained.

END OF SECTION 221413

SECTION 22 14 23 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Roof drains.
2. Miscellaneous storm drainage piping specialties.
3. Cleanouts.
4. Through-penetration firestop assemblies.
5. Flashing materials.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.4 QUALITY ASSURANCE

A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 METAL ROOF DRAINS

A. Cast-Iron, Large-Sump, General-Purpose Roof Drains:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Mea-Josam Company.
b. Josam
c. Watts Water Technologies, Inc.
d. Zurn Plumbing Products Group; Specification Drainage Operation.

2. Refer to schedule on drawing.

2.2 CLEANOUTS

A. Floor Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Mea-Josam Company.
b. MIFAB
c. Josam
d. Watts Water Technologies, Inc.
e. Zurn Plumbing Products Group; Specification Drainage Operation.

2. Refer to schedule on drawing.

B. Test Tees:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Mea-Josam Company.
b. MIFAB, Inc.
c. Josam
d. Watts Water Technologies, Inc.
e. Zurn Plumbing Products Group; Specification Drainage Operation.

2. Standard: ASME A112.36.2M and ASTM A 74, ASTM A 888, or CISPI 301, for cleanout test tees.
3. Size: Same as connected drainage piping.
4. Body Material: Hub-and-spigot, cast-iron soil-pipe T-branch or hubless, cast-iron soil-pipe test tee as required to match connected piping.
5. Closure Plug: Countersunk or raised head, brass.
6. Closure Plug Size: Same as or not more than one size smaller than cleanout size.

C. Wall Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Mea-Josam Company.
b. MIFAB, Inc.
c. Josam
d. Watts Water Technologies, Inc.
e. Zurn Plumbing Products Group; Specification Drainage Operation.

2. Standard: ASME A112.36.2M, for cleanouts. Include wall access.
3. Size: Same as connected drainage piping.
4. Body Material: As required to match connected piping.
5. Closure: Countersunk or raised-head, drilled-and-threaded, brass or cast-iron plug.
6. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
7. Wall Access: Round, deep, chrome-plated bronze cover plate with screw.

8. Wall Access: Round wall-installation frame and cover.

2.3 FLASHING MATERIALS

A. Copper Sheet: ASTM B 152/B 152M,12 oz./sq. ft..

B. Zinc-Coated Steel Sheet: ASTM A 653/A 653M, with 0.20 percent copper content and 0.04-inch minimum thickness unless otherwise indicated. Include G90 hot-dip galvanized, mill-phosphatized finish for painting if indicated.

C. Elastic Membrane Sheet: ASTM D 4068, flexible, chlorinated polyethylene, 40-mil minimum thickness.

D. Fasteners: Metal compatible with material and substrate being fastened.

E. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.

F. Solder: ASTM B 32, lead-free alloy.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions.

1. Install flashing collar or flange of roof drain to prevent leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
2. Position roof drains for easy access and maintenance.

B. Install cleanouts in aboveground piping and building drain piping according to the following instructions unless otherwise indicated:

1. Use cleanouts the same size as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
2. Locate cleanouts at each change in direction of piping greater than 45 degrees.
3. Locate cleanouts at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
4. Locate cleanouts at base of each vertical soil and waste stack.

C. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

D. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

E. Install test tees in vertical conductors and near floor.

F. Install wall cleanouts in vertical conductors. Install access door in wall if indicated.

G. Install sleeve flashing device with each conductor passing through floors with waterproof membrane.

3.2 CONNECTIONS

A. Comply with requirements for piping specified in Section 221413 "Facility Storm Drainage Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

3.3 FLASHING INSTALLATION

A. Fabricate flashing from single piece of metal unless large pans, sumps, or other drainage shapes are required. Join flashing according to the following if required:

1. Lead Sheets: Burn joints of 6.0-lb/sq. ft. lead sheets, 0.0938-inch thickness or thicker. Solder joints of 4.0-lb/sq. ft. lead sheets, 0.0625-inch thickness or thinner.
2. Copper Sheets: Solder joints of copper sheets.

B. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.

1. Pipe Flashing: Sleeve type, matching the pipe size, with a minimum length of 10 inches and with skirt or flange extending at least 8 inches around pipe.
2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches around sleeve.
3. Embedded Specialty Flashing: Flat sheet, with skirt or flange extending at least 8 inches around specialty.

C. Set flashing on floors and roofs in solid coating of bituminous cement.

D. Secure flashing into sleeve and specialty clamping ring or device.

E. Fabricate and install flashing and pans, sumps, and other drainage shapes.

3.4 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221423

SECTION 22 16 13 - FUEL GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipes, tubes, and fittings.
2. Piping specialties.
3. Piping and tubing joining materials.
4. Valves.
5. Pressure regulators.
6. Concrete Bases

1.3 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

1.4 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:

1. Piping and Valves: 100 psig minimum unless otherwise indicated.
2. Service Regulators: 65 psig minimum unless otherwise indicated.

B. Natural-Gas System Pressure within Buildings: 7”wc.

1.5 SUBMITTALS

A. Product Data: For each type of the following:

1. Piping specialties.
2. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
3. Pressure regulators. Indicate pressure ratings and capacities.
4. Dielectric fittings.

B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.

C. Welding certificates.

D. Field quality-control reports.

E. Operation and Maintenance Data: For motorized gas valves, pressure regulators and service meters to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.

B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

1.8 PROJECT CONDITIONS

A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only

after arranging to provide purging and startup of natural-gas supply according to requirements indicated:

1. Notify Construction Manager no fewer than three working days in advance of proposed interruption of natural-gas service.
2. Do not proceed with interruption of natural-gas service without Construction Manager's written permission.

1.9 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:

    a. Material Group: 1.1.
    b. End Connections: Threaded or butt welding to match pipe.
    c. Lapped Face: Not permitted underground.
    d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
    e. Bolts and Nuts: ASME B18.2.1, carbon steel aboveground and stainless steel underground.

5. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.

    a. Joint Cover Kits: Epoxy paint, adhesive, and heat-shrink PE sleeves.

6. Mechanical Couplings:

    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

        1) Dresser Piping Specialties; Division of Dresser, Inc.
        2) Smith-Blair, Inc.

b. Steel flanges and tube with epoxy finish.
c. Buna-nitrile seals.
d. Steel bolts, washers, and nuts.

B. PE Pipe: ASTM D 2513, SDR 11.

1. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.
2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
3. Anodeless Service-Line Risers: Factory fabricated and leak tested.

a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering.
c. Aboveground Portion: PE transition fitting.
d. Outlet shall be threaded or flanged or suitable for welded connection.
e. Tracer wire connection.
f. Ultraviolet shield.
g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

4. Transition Service-Line Risers: Factory fabricated and leak tested.

a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet connected to steel pipe complying with ASTM A 53/A 53M, Schedule 40, Type E or S, Grade B, with corrosion-protective coating for aboveground outlet.
b. Outlet shall be threaded or flanged or suitable for welded connection.
c. Bridging sleeve over mechanical coupling.
d. Factory-connected anode.
e. Tracer wire connection.
f. Ultraviolet shield.
g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

5. Plastic Mechanical Couplings, NPS 2 and Larger: Capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Lyall, R. W. & Company
2) Mueller Company
3) Perfection Corporation

b. Fiber-reinforced plastic body.
c. PE body tube.
d. Buna-nitrile seals.
e. Acetal collets.
f. Stainless-steel bolts, nuts, and washers.

2.2 PIPING SPECIALTIES

A. Appliance Flexible Connectors:

1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
4. Corrugated stainless-steel tubing with polymer coating.
5. Operating-Pressure Rating: 0.5 psig.
6. End Fittings: Zinc-coated steel.
7. Threaded Ends: Comply with ASME B1.20.1.
8. Maximum Length: 72 inches.

B. Quick-Disconnect Devices: Comply with ANSI Z21.41.

1. Copper-alloy convenience outlet and matching plug connector.
2. Nitrile seals.
3. Hand operated with automatic shutoff when disconnected.
4. For indoor or outdoor applications.
5. Adjustable, retractable restraining cable.

C. Y-Pattern Strainers:

1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 60-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

D. Weatherproof Vent Cap: Cast- or malleable-iron increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

2.3 JOINING MATERIALS

A. Joint Compound and Tape: Suitable for natural gas.

B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.4 MANUAL GAS SHUTOFF VALVES

A. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.

1. CWP Rating: 125 psig.
2. Threaded Ends: Comply with ASME B1.20.1.
3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.

4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.

B. General Requirements for Metallic Valves, NPS 2-1/2 and Larger: Comply with ASME B16.38.

1. CWP Rating: 125 psig.
2. Flanged Ends: Comply with ASME B16.5 for steel flanges.
3. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
4. Service Mark: Initials "WOG" shall be permanently marked on valve body.

C. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. BrassCraft Manufacturing Company; a Masco company.
    b. Conbraco Industries, Inc.; Apollo Div.
    c. Lyall, R. W. & Company, Inc.
    d. McDonald, A. Y. Mfg. Co.
    e. Perfection Corporation; a subsidiary of American Meter Company.

2. Body: Bronze, complying with ASTM B 584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Threaded-body packnut design with adjustable-stem packing.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

2.5 MOTORIZED GAS VALVES

A. Electrically Operated Valves: Comply with UL 429.

B. Automatic Gas Valves: Comply with ANSI Z21.21.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Asco
    b. Eaton

c. Honeywell Building Solutions
d. Johnson Controls

2. Body: Brass or aluminum.
3. Seats and Disc: Nitrile rubber.
4. Springs and Valve Trim: Stainless steel.
5. Normally closed.
6. Visual position indicator.
7. Electrical operator for actuation by appliance automatic shutoff device.

2.6 PRESSURE REGULATORS

A. General Requirements:

1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.
3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 and smaller; flanged for regulators NPS 2-1/2 and larger.

B. Medium Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Actaris.
b. American Meter Company.
c. Eclipse Combustion, Inc.
d. Fisher Control Valves and Regulators; Division of Emerson Process Management.
e. Invensys.
f. Maxitrol Company.

2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
6. Orifice: Aluminum; interchangeable.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
10. Overpressure Protection Device: Factory mounted on pressure regulator.
11. Vent limiting device.
12. Maximum Inlet Pressure: 5 psig.

C. Appliance Pressure Regulators: Comply with ANSI Z21.18.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Eaton Corporation; Controls Div.
    b. Harper Wyman Co.
    c. Maxitrol Company.
    d. SCP, Inc.

2. Body and Diaphragm Case: Die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber.
6. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
7. Factory-Applied Finish: Minimum three-layer polyester and polyurethane paint finish.
8. Regulator may include vent limiting device, instead of vent connection, if approved by authorities having jurisdiction.
9. Maximum Inlet Pressure: 1 psig.

2.7 DIELECTRIC FITTINGS

A. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Capitol Manufacturing Company.
    b. Central Plastics Company.
    c. Hart Industries International, Inc.
    d. McDonald, A. Y. Mfg. Co.
    e. Watts Regulator Co.; Division of Watts Water Technologies, Inc.
    f. Wilkins; Zurn Plumbing Products Group.

2. Minimum Operating-Pressure Rating: 150 psig.
3. Combination fitting of copper alloy and ferrous materials.
4. Insulating materials suitable for natural gas.
5. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

B. Dielectric Flanges:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Capitol Manufacturing Company.
    b. Central Plastics Company.
    c. Watts Regulator Co.; Division of Watts Water Technologies, Inc.

d. Wilkins; Zurn Plumbing Products Group.

2. Minimum Operating-Pressure Rating: 150 psig.
3. Combination fitting of copper alloy and ferrous materials.
4. Insulating materials suitable for natural gas.
5. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

C. Dielectric-Flange Kits:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Advance Products & Systems, Inc.
b. Calpico Inc.
c. Central Plastics Company.
d. Pipeline Seal and Insulator, Inc.

2. Minimum Operating-Pressure Rating: 150 psig.
3. Companion-flange assembly for field assembly.
4. Include flanges, full-face- or ring-type neoprene or phenolic gasket, phenolic or PE bolt sleeves, phenolic washers, and steel backing washers.
5. Insulating materials suitable for natural gas.
6. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

2.8 LABELING AND IDENTIFYING

A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored yellow.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Close equipment shutoff valves before turning off natural gas to premises or piping section.

B. Inspect natural-gas piping according to the state Fuel Gas Code to determine that natural-gas utilization devices are turned off in piping section affected.

C. Comply with the state Fuel Gas Code requirements for prevention of accidental ignition.

3.3 OUTDOOR PIPING INSTALLATION

A. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.

B. Install underground, natural-gas piping buried at least 24 inches below finished grade. Comply with requirements in Section 312000 "Earth Moving" Site Work for excavating, trenching, and backfilling.

C. Install underground, PE, natural-gas piping according to ASTM D 2774.

D. Install fittings for changes in direction and branch connections.

E. Install pressure gage downstream from each service regulator. Pressure gages are specified in Division 220519 Section "Meters and Gages ".

3.4 INDOOR PIPING INSTALLATION

A. Comply with the state Fuel Gas Code for installation and purging of natural-gas piping.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.

D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

G. Locate valves for easy access.

H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.

I. Install piping free of sags and bends.

J. Install fittings for changes in direction and branch connections.

K. Verify final equipment locations for roughing-in.

L. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.

M. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.

1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 3 inches (75 mm) long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.

N. Extend relief vent connections for service regulators, medium regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.

O. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels unless indicated to be exposed to view.

P. Concealed Location Installations: Except as specified below, install concealed natural-gas piping and piping installed under the building in containment conduit constructed of steel pipe with welded joints as described in Part 2. Install a vent pipe from containment conduit to outdoors and terminate with weatherproof vent cap.

1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
2. In Walls or Partitions: Protect tubing installed inside partitions or hollow walls from physical damage using steel striker barriers at rigid supports.

a. Exception: Tubing passing through partitions or walls does not require striker barriers.

3. Prohibited Locations:

a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
b. Do not install natural-gas piping in solid walls or partitions.

Q. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.

R. Connect branch piping from top or side of horizontal piping.

S. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.

T. Do not use natural-gas piping as grounding electrode.

U. Install strainer on inlet of each medium-pressure regulator and automatic or electrically operated valve.

V. Install pressure gage downstream from each medium regulator. Pressure gages are specified in Division 220519 Section "Meters and Gages."

W. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Division 220500 Section "Common Work Results for Plumbing Piping."

X. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Division 220500 Section “Common Work Results for Plumbing Piping."

Y. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Division 220500 Section “Common Work Results for Plumbing Piping."

3.5 VALVE INSTALLATION

A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing, aluminum, or copper connector.

B. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

3.6 PIPING JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints:

1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
2. Cut threads full and clean using sharp dies.
3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Welded Joints:

1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
2. Bevel plain ends of steel pipe.
3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.

E. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.

F. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.

1. Plain-End Pipe and Fittings: Use butt fusion.
2. Plain-End Pipe and Socket Fittings: Use socket fusion.

3.7 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hangers and supports specified in Division 220529 Section "Hangers and Supports for Plumbing Piping and Equipment."

B. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:

1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.
3. NPS 1-1/2 and NPS 2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
4. NPS 2-1/2 to NPS 3-1/2: Maximum span, 10 feet; minimum rod size, 1/2 inch.
5. NPS 4 and Larger: Maximum span, 10 feet; minimum rod size, 5/8 inch.

3.8 CONNECTIONS

A. Connect to utility's gas main according to utility's procedures and requirements.

B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.

C. Install piping adjacent to appliances to allow service and maintenance of appliances.

D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.

E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.9 LABELING AND IDENTIFYING

A. Comply with requirements in Division 220553 Section “Identification for Plumbing Piping and Equipment" for piping and valve identification.

B. Install detectable warning tape directly above gas piping, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.10 PAINTING

A. Comply with requirements in Division 099100 “Painting” Sections for painting interior and exterior natural-gas piping.

B. Paint exposed, exterior metal piping, valves and piping specialties, except components, with factory-applied paint or protective coating.

1. Alkyd System: MPI EXT 5.1D.

    a. Prime Coat: Alkyd anticorrosive metal primer.
    b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
    c. Topcoat: Exterior alkyd enamel (semigloss).
    d. Color: To match existing facility color scheme at location of installation.

C. Paint exposed, interior metal piping, valves, service regulators, and piping specialties, except components, with factory-applied paint or protective coating.

1. Latex Over Alkyd Primer System: MPI INT 5.1Q.

    a. Prime Coat: Quick-drying alkyd metal primer.
    b. Intermediate Coat: Interior latex matching topcoat.
    c. Topcoat: Interior latex (semigloss).
    d. Color: To match existing facility color scheme at location of installation.

D. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.11 CONCRETE BASES

A. Concrete Bases: Anchor equipment to concrete base according to seismic codes at Project.

1. Construct concrete bases of dimensions indicated, but not less than 4 inches larger in both directions than supported unit.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of the base.
3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.

4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to supported equipment.
6. Use 3000-psig 28-day, compressive-strength concrete and reinforcement as specified in Section 033000 "Cast-in-Place Concrete."

3.12 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Test gas piping at 15psi for one hour per SED requirements. Inspect, and purge natural gas piping according to the state Fuel Gas Code.

C. Natural-gas piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.13 OUTDOOR PIPING SCHEDULE

A. Underground natural-gas piping shall be the following:

1. PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.

B. Aboveground natural-gas piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

3.14 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG

A. Aboveground, piping NPS 2 and smaller shall be the following:

1. Steel pipe with malleable-iron fittings and threaded joints.

B. Aboveground, piping 2 ½” and larger shall be the following:

1. Steel pipe with wrought-steel fittings and welded joints.

C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

D. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.15 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Valves for pipe sizes NPS 2 and smaller at service meter shall be one of the following:

1. Two-piece, full-port, bronze ball valves with bronze trim.

B. Valves for pipe sizes NPS 2-1/2 and larger shall be the following:

1. Cast-Iron, lubricated plug valve. Retain "one of" option in first paragraph below to allow Contractor to select piping materials from those retained.

END OF SECTION 221613

SECTION 23 00 10 - GENERAL MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. The General Conditions, Supplementary General Conditions, Instructions to Bidders, General Requirements, and Division 1 of these Specifications are part of the work of this Section.

B. Section 230010 General Mechanical Requirements applies to the work of all Mechanical Trades, including HVAC, Temperature Controls, as well as each Mechanical Specification Section.

1.2 EQUIPMENT AND MATERIALS SPECIFIED

A. Where products are named on the Drawings or in the Specifications, a **Basis of Design** product may be named. Other product manufacturers named in the specifications are acceptable; however, first confirm that these products meet the requirements of the contract documents by demonstrating at minimum that they fit into the available space and meet all performance requirements indicated on the Contract Documents, prior to submitting them for approval. Where the Engineer has determined the products do not meet the requirements of the contract documents, the product is not acceptable.

B. Where equipment or materials other than those that are the Engineer's basis for design are submitted for approval, demonstrate in writing that the equipment or materials will fit into available space and will meet or exceed all performance requirements indicated on the drawings. Where, in the opinion of the Engineer, any characteristic of the product or material requires modification, such as larger motors, electrical feeders, circuit breakers, additional control devices, valves, fittings, larger support and other miscellaneous equipment, the cost of all such modifications to this and other Contracts shall be borne by the party offering the substitution.

C. Retain the ultimate responsibility for function of equipment and materials which are not the basis of design for the Contract Documents. Responsibility includes coordinate with other trades for proper location of roughing, and connections to be made by other trades, as well as removal and replacement of any doors, frames, walls, ceilings, and floors without additional cost to be borne by the project.

D. If revised arrangement submittal is rejected, revise and resubmit specified "design equipment" item which conforms to the Contract Documents.

1.3 ABSENCE OF SPECIFICATION

A. Where the drawings or the specifications do not name a particular brand or manufacturer of any item, the item is still part of the Work, and such item(s) that may be fairly and reasonably judged throughout the construction industry to be the most appropriate and best quality item for

the intended application. Provide submittals for proposed items to the Engineer for review and approval.

1.4 ELECTRICAL CHARACTERISTICS FOR MECHANICAL EQUIPMENT

A. Equipment of differing electrical characteristics may be furnished provided the Engineer is first notified in writing of the discrepancy, and that such proposed equipment is approved in writing by the Engineer, and that all connecting electrical services, feeders, branch circuits, disconnecting devices, over current devices, motor starting equipment, wiring, controls, boxes, and conduit sizes are appropriately modified. The costs of all such modifications are borne by the party installing the differing equipment. If minimum energy ratings or efficiencies are specified, all equipment shall comply with requirements.

1.5 SUBSTITUTIONS

A. The materials, products and equipment described in the Bidding Documents establish a standard of required quality, functions, dimensions and appearance that must be met by any proposed substitution.

B. Proposed substitutions must be submitted in writing to the Architect and Engineer a maximum of 48 hours after a notice to proceed is received. Each request shall include the name of the proposed material, product or equipment being substituted, cut sheets, installation drawings, performance and test data, warranties and location of three (3) similar installations with reference names of owner or facility personnel responsible for maintaining equipment. At that time, the equipment will be evaluated and if determined to be acceptable then a Submittal shall be furnished. Failure to follow the guidelines described above will result in equipment being rejected at submittal based solely on failure to follow the above guidelines.

C. Approval by the Architect and/or Engineer to proceed with a substitution does not relieve any party from meeting all of the requirements set forth in section 1.2 of this specification.

D. Requests for substitution shall be made only by a Bidder. Requests for substitution from sales representatives, vendors or suppliers are unacceptable and will not be considered.

1.6 SCOPE OF WORK

A. Include in bid all labor, materials, tools, plant, transportation, excavation, equipment, insurance, temporary protection, permits, taxes, services and all necessary and related items required to provide complete and operational systems shown and described.

B. References to codes and standards called for in the Contract Documents means the latest edition, amendment and revisions to the codes and standards in effect on the date of these contract documents.

C. Contract shall include, but not be limited to:

1. HVAC
2. Temperature Controls

3. Testing, Adjusting, and Balancing of Mechanical Systems.

1.7 DRAWINGS AND SPECIFICATIONS

A. The drawings are diagrammatic and have been developed by the Engineer for the purpose of indicating the sizes, capacities, and the general arrangement of the systems to be installed under this Contract. Install all equipment in complete compliance with manufacturer's instructions, applicable codes and ordinances, and in a neat and workmanlike manner. Carefully lay out the routing and location of all equipment and materials so as to accommodate obstacles and interferences, and to provide proper maintenance and access clearances.

B. Notify the Engineer of any conflicts that will affect the quality, performance, or appearance of the systems installed under this Contract, prior to installing them. In the event of conflict between the drawings and specifications, or between different sheets within the drawing set, this shall be brought to the attention of the Engineer for resolution prior to submission of bids. In the event these discrepancies are not noted prior to the submission of bids or in writing within their bid submission, the Engineer shall resolve the discrepancy such that the design intent is provided. Provide as part of the bid, all labor, materials, and equipment to provide the most costly installation.

C. Refer to the Architectural Plans for dimensioned drawings. **Do not determine dimensions by scaling the Drawings**.

1.8 CODES AND STANDARDS

A. All Work shall conform to rules and regulations of federal, state, and local governmental agencies having jurisdictional authority. All installations shall be installed and tested in accordance with these rules and regulations.

B. In the event of a conflict between these contract documents and governing rules, regulations, and codes the more stringent practice shall apply.

C. Install all work in complete compliance with the applicable provisions of the following:

1. 2015 Wisconsin Building Code
2. 2015 Wisconsin State Fire Code
3. 2015 Wisconsin Mechanical Code
4. 2015 Wisconsin Fuel Gas Code
5. 2015 Wisconsin Energy Code
6. Local Codes and Ordinances for Chisholm, Minnesota
7. Wisconsin Department of Workforce Development Labor Standards (DWD)
8. 2017 National Electric Code (NEC)
9. American Gas Association (AGA)
10. Underwriter’s Laboratories (UL)
11. National Fire Protection Association (NFPA)
12. American Society of Mechanical Engineers (ASME)
13. American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)
14. Utility Company Standards and Requirements
15. Occupational, Safety and Health Act (OSHA)

16. International Standards Organization (ISO)
17. Other requirements required by the Authorities having Jurisdiction.

1.9 LICENSING AND PERMITS

A. Maintain all required licenses to perform the work of his respective trade in the locality where the project is constructed.

B. All electrical work shall be performed under the supervision of a licensed electrician.

C. All plumbing work shall be performed under the supervision of a licensed master plumber.

D. Apply for all required permits associated with the work of this Contract and pay the cost of all associated permitting fees.

1.10 SUBMITTALS, SHOP DRAWINGS, WIRING DIAGRAMS

A. Unless otherwise waived, provide submittals for all equipment and materials that are part of this Contract.

B. Submittals shall include dimensions, weights, capacities, and a list of all specific features and accessories that are to be provided for this project in sufficient detail to permit the Engineer to determine compliance with specified requirements.

C. Provide wiring diagrams for approval by the Engineer for all electrically powered and/or electrically controlled equipment that is part of this Contract.

D. Provide complete temperature control wiring diagrams for approval by the Engineer for all temperature control systems and equipment.

E. Refer to Division 1 for additional requirements for submittals and shop drawings. Where such requirements conflict with this section, the more stringent shall apply.

F. Approval of shop drawings and/or submittals does not relieve any party from responsibility for deviations from the contract documents. Meet the requirements of these documents. All errors and omissions in the product data are to be corrected irrespective of any approvals by the Architect or Engineer.

1.11 LAYOUT, COORDINATION AND SEQUENCING

A. Coordinate the work with the work of other trades working on this project.

B. Lay out and adjust the location of the work of this Contract. Layout shall accommodate all obstacles and interferences anticipated or encountered. Relocate obstacles and interferences where required, and as may additionally be directed by the Engineer.

C. Store materials on a dry base, a least 6” above grade. Store materials so not to interfere with other work or obstruct access to the building. Provide covering, if stored outdoors, provide

sight-proof covering. Protect against both theft and damage. Replace stolen or damaged items at no additional cost to the project.

D. Install the work sequentially with respect to the work of other trades in a timely manner, and so as not to delay the work of other trades or of the Project schedule.

E. Adhere to the established Construction Schedule for the Project.

F. Order all equipment and materials in a timely manner so as not to delay the Project. Notify the Engineer of any delays in the timely procurement of equipment and materials.

1.12 ELECTRONIC CAD FILES

A. The Engineer may provide CAD files for this project. Supply the Engineer a completed CAD release form, to be supplied by the Engineer. These CAD files shall be used for reference purposes only, and not as shop drawings or as-built documents. Provide detailed, coordinated shop drawings and documentation prior to installation. The purpose of the coordination shop drawings is to account for all trades and field conditions and identify any conflicts that shall be resolved prior to installation.

B. Any additional cost for changes due to conflicts as a result of failure to provide properly coordinated documents will not be the responsibility of the Engineer or the Owner.

C. If electronic CAD files are requested from the Engineer and this request is granted, such convenience may be deducted from monies owed at the completion of the project at a value determined mutually.

1.13 ROUGHING IN

A. Due to small scale of Drawings, it is not possible to indicate all offsets, fittings, changes in elevation, etc. Verify final locations for rough ins with field measurements and with the equipment being connected. Verify exact location and elevations at work site prior to any rough in work. DO NOT SCALE PLANS. If field conditions, details, changes in equipment or shop drawing information require a significant change to the original documents, contact the Owner’s Representative for approval before proceeding.

B. All equipment locations shall be coordinated with other trades to eliminate interference with required clearances for equipment maintenance and inspections.

C. Coordinate work with other trades and determine exact routing of all duct, pipe, conduit, etc., before fabrication and installation. Coordinate with Architectural Drawings and all existing architecture. Verify with Owner's Representative exact location and mounting height of all equipment in finished areas, such as thermostats, fixtures, communication and electrical devices, including panels. Mechanical and electrical drawings show design arrangement only for Diffusers, grilles, registers, air terminals, lighting fixtures, sprinklers, speakers and other items. Do not rough-in contract work without reflected ceiling location plans. Report to the Engineer immediately for instances where to the mechanical/electrical/architectural plans show more than one device occupying the same ceiling location.

D. Before roughing for equipment furnished by Owner or in other contracts, obtain approved roughing drawings giving exact location for each piece of equipment. Do not "rough in" services without final layout drawings approved for construction. Cooperate with other trades to ensure proper location and size of connections. Ensure proper functioning of all systems and equipment. Obtain written authorization from the Owner's Representative or other trades for any "rough ins" that are required before approved coordination drawings are available. Any work installed without written authorization or approved coordination drawings, causing a conflict will be relocated by the installing trade at no additional cost to the project.

E. For equipment and connections provided in this contract, prepare roughing drawings as follows:

1. New equipment: Obtain equipment roughing drawings and dimensions, then prepare rough-in drawings.

F. Where more than one trade is involved in an area, space or chase, all shall cooperate and install their own work to utilize the space equally between them in proportion to their individual requirements. In general, ductwork shall be given preference except where grading of piping becomes a problem, followed by piping then electrical wiring. If it is determined that ample maintenance and passage space has not been provided, rearrange work and/or furnish other equipment as required for ample maintenance space. Any changes in the size or location of the material or equipment supplied, which may be necessary in order to meet field conditions or in order to avoid conflicts between trades, shall be brought to the immediate attention of the Owner's Representative and approval received before such alterations are made.

G. All equipment requiring service and / or access shall be provided adequate clearances for this purpose. Any clearances described in manufacturer's information, code requirements, etc., shall be taken into account in determining final rough-in positions. Reasonable access for maintenance and service shall be maintained. The most stringent standard, as determined by the Engineer, shall apply.

1.14 CUTTING AND PATCHING

A. Provide cutting and patching for all work under this Contract:

1. Provide steel lintels for all duct floor and wall penetrations and similar large openings.
2. Provide steel sleeves for all floor and wall pipe penetrations.

B. Refer to Division 1, Section "Cutting and Patching" for additional requirements.

1.15 CONCEALMENT

A. Conceal all work above ceilings and within walls, below slabs, and elsewhere through the building, except in unfinished spaces. Where a conflict exists that renders concealment impossible, notify the Engineer before starting the work and install as directed.

1.16 FIRE-STOPPING

A. Refer to Division 7 Section “Through-Penetration Firestop Systems”. Where the provisions contained in Division 7 Section “Through-Penetration Firestop Systems” conflict with the requirements contained herein, the more stringent shall apply. Where Division 7 Section “Through-Penetration Firestop Systems” is not included, the provisions contained herein shall apply.

B. Provide materials and products listed by an independent testing laboratory for Through-Penetration Fire Stop Systems, to meet requirements of Fire Tests of Through Penetration Fire-Stops, ASTM E814.

C. Provide fire stop system at all locations where piping, tubing, conduit, cables, ductwork, and similar items pass through or penetrate any fire rated wall or floor assembly.

D. Maintain minimum required fire-resistance rating of the wall, floor, or ceiling assembly which is penetrated.

E. Apply fire-stopping systems within the temperature and humidity limits permitted by the manufacturer.

F. Provide rigid sleeves where non-armored cables pass through fire rated walls and barriers.

G. Acceptable Manufacturers:

1. Hilti Firestop Systems
2. Dow Corning Fire-Stop System Foams and Sealants
3. Nelson Electric Fire-Stop System Putty, CLK and WRP
4. Thomas & Betts – S-100 FS500/600
5. Carborum Fyre Putty

1.17 FIRE AND SMOKE DAMPERS

A. Fire dampers are required at all duct penetrations of all fire rated assemblies.

B. Smoke dampers are required at all duct penetrations of smoke barriers.

C. Refer to Specification Section “Duct Accessories” for additional requirements for Fire and Smoke dampers.

1.18 ACCESS DOORS AND PANELS

A. Provide access doors for all recessed valves, dampers, junction boxes, controls, and for all other items of equipment that require access, where these items are installed above inaccessible ceiling.

B. Refer to Division 8, Section “Access Panels”; where the provisions contained in that section conflict with the requirements contained herein, the more stringent shall apply. Where Division

8 Section “Access Panels” is not included, the provisions contained herein shall apply in their entirety.

C. Access doors used shall be specifically designed for the material composing the wall or ceiling where installed.

D. Unless otherwise indicated, access doors shall be prime painted steel, minimum 14-gauge frame and panel, except where used in toilet rooms, kitchens and showers, where they shall be 16-gauge frame and panel stainless steel. Unless otherwise indicated, hinges shall be piano hinge style.

E. Access doors used in fire rated walls, partitions and ceilings shall be Underwriters Laboratories 1-1/2 hour class B fire rated.

F. Locks shall be screwdriver type, unless otherwise indicated.

G. Access doors shall be securely attached to the wall, ceiling, or framing material, and installed in complete conformance to manufacturer’s installation instructions.

H. Coordinate the location of all access doors to permit unrestricted access to the equipment to be accessed. Where multiple items of equipment in the same vicinity can be grouped together, provide access panels of proper size to permit unrestricted access to all such items. Provide access panels for all items of equipment which require access.

1.19 EQUIPMENT INSTALLATION

A. Minimum Requirements:

1. Materials shall have a flame spread rating of 25 or less and a smoke developed rating of 50 or less, in accordance with NFPA 255.
2. All equipment and material for which there is a listing service shall bear a UL label.
3. Electrical equipment and systems shall meet UL Standards and requirements of the N.E.C. This listing requirement applies to the entire assembly. Any modifications to equipment to suit the intent of the specifications shall be performed in accordance with UL Standards and the requirements of the N.E.C.
4. Communications equipment shall meet all FCC Regulations.
5. All materials, unless otherwise specified, shall be new and be the standard products of the manufacturer. Used equipment or damaged material will be rejected.

B. Install all equipment in compliance with manufacturer’s instructions and the Contract Documents. Notify the Engineer where manufacturer’s instructions differ from the Contract Documents for resolution.

C. Coordinate ordering all equipment with long lead times or equipment having major impact on work by other trades.

D. Provide all scaffolding, rigging, hoisting, and services necessary for erection and delivery of equipment and apparatus furnished. Remove these apparatus’ when they are no longer required.

E. Where mounting heights are not indicated, install systems in a manner to maximize head room possible.

F. Lay out equipment to provide access to all components requiring maintenance. Provide clearances as required by applicable codes and standards, as well as manufacturer's recommendations, and good practice.

G. Lay out equipment to provide adequate removal clearance for coils, tubes, fan assemblies, and similar components.

H. Equipment shall be plumb and level, and secured to supporting structures as specified, recommended by manufacturer, and as dictated by good practice.

I. Take all necessary precautions with equipment, systems, and building to prevent any damage due to freezing and/or water. Repair or replace, any no additional cost to the project, any such damage which is a result of failure to take proper precautions against freezing and water damage.

1.20 EQUIPMENT SUPPORTS, ROOF CURBS AND CONCRETE BASES

A. Provide supporting structures for all mechanical equipment.

B. Concrete Bases:

1. Provide concrete bases for all floor mounted equipment including, but not limited to, Boilers, pumps, expansion and compression tanks and all other similar equipment required for this project, as called for on the Contract Documents.
2. Floor mounted mechanical equipment shall be mounted on 4" high concrete bases. The plan dimensions of each base shall extend 6" beyond the outer extents of the equipment served.
3. Concrete bases shall be doweled into floor with steel dowels, minimum 4 dowels per pad, and shall consist of minimum 28 day minimum strength - 4,000-psi strength concrete. Concrete bases shall be steel reinforced, with minimum one ½" rebar for every 2 sqft of base area, and shall be smooth and level.
4. Corners of concrete bases shall be chamfered.
5. Paint edge of bases two coats bright yellow.

C. Curbs:

1. Provide factory manufactured, insulated roof mounting curbs for all roof mounted equipment including, but not limited to fans, rooftop HVAC units, and similar equipment.
2. Unless specifically noted otherwise, provide structural steel roof mounting rails for chillers, condensing units, condensers, and similar equipment.
3. Coordinate installation of all curbs with the trade performing the roof work.

D. Refer to respective Specification sections for support of ductwork and piping.

E. Provide shop drawings for all concrete bases, equipment support frames, and mounting curbs, mounting rails, for review and approval by the Engineer.

1.21 ROOF PENETRATIONS

A. Provide pre-fabricated roof penetration curbs for all pipe, duct, and conduit roof penetrations.

B. Coordinate installation with the trade performing the roof work.

C. All openings through roof shall be flashed and sealed water-tight. Work shall be completed by qualified and licensed Roofer.

D. Curbs by equipment manufacturer, Pate Company, Thybar, or approved equivalent.

1.22 START-UP AND TESTING

A. Engage the services of a qualified factory representative for all manufactured equipment to assist in the start-up of all systems and equipment installed under this Contract.

B. Test all systems, equipment, components, and controls installed under this Contract.

C. Test all piping and related accessories installed under this Contract.

D. Testing requirements are contained in specifications for each specific equipment, component, and material type.

E. Correct all deficient items detected and re-test until results are satisfactory.

F. Upon completion of testing, submit a comprehensive written test report to the Engineer for review and approval.

1.23 ADJUSTMENTS AND BALANCING

A. Balance all air and fluid flows associated with the systems installed under this contract per the Engineer's requirements. Where flow rates, speeds, and capacities are not stated on the drawings, the Engineer will, upon request, provide the required quantities. Refer to Section "Testing, Adjusting, and Balancing" for additional requirements.

1.24 IDENTIFICATION

A. Identify all equipment, piping, ductwork, valves, and controls with permanent, marking system as specified. Refer to Section "Mechanical Identification" for requirements.

1.25 CLEANING

A. Keep the job site and premises clean at all times. Refer to Division 1 for requirements.

B. Maintain all installed work clean throughout the duration of the project.

1. Remove debris, dirt, grease, paint, plaster, etc. from all equipment and materials installed.
2. Restore original finish of any equipment and materials damaged during construction.

C. Clean piping and ductwork prior to testing. Refer to specific specification sections covering piping and ductwork for specific cleaning requirements.

1.26 RECORD DRAWINGS

A. Prepare record drawings of the completed work of this Contract.

1. Take dimensions from a given fixed bench mark, such as the corner of a building, and neatly and clearly indicate same on reproducible prints.
2. Provide Record Drawings for all Contract Work. Document the location of control devices, isolation valves, safety devices, and equipment.
3. Incorporate all field changes, change orders and other modifications into the final Record Drawings.
4. Record drawings shall contain all corrections from construction documents to as-built conditions and shall be submitted for review and approval. Documents shall be provided in PDF formant or, where fully developed in CAD, in AutoCAD compatible file format. Submittal media shall be as acceptable to the Owner and Engineer.

1.27 OPERATING AND MAINTENANCE INSTRUCTIONS

A. Operation instruction: After all systems have been completely installed and satisfactorily tested, instruct the Owner's representative on the operation of all systems and equipment that are part of this Contract. Instruction shall be a "hands on" session, physically demonstrate the proper operation of all items of equipment. Provide written instructions for the Owner's use prior to the time of instruction, and amend same where required. Include sufficient time to permit the Owner to master the operation of all systems.

B. Provide one (1) electronic version and one (1) bound set of maintenance manuals covering all systems installed under this contract. Manuals shall adhere to the following requirements:

1. Bound in three-ring binders.
2. Cover sheet to include Project title, Contractors name, contact person, contact information, name and contact information of all factory equipment representatives.
3. Table of contents; tabulated section for each major system.
4. Operations instructions for each major system.
5. Include the following for each item of equipment furnished under this contract:

    a. Maintenance instructions
    b. Manufacturer's data sheets
    c. Recommended spare parts inventory
    d. Wiring diagrams

6. Preventative maintenance schedule
7. Record drawings
8. Temperature controls drawings
9. Provide approved submittal as part of O&M clearly identifying manufacturer and provided model number.
10. Include vendor contact information for service and warranty
11. Include all start-up and testing reports

PART 2 - PRODUCTS - (NOT USED)

PART 3 - EXECUTION – (NOT USED)

END OF SECTION 230010

SECTION 23 05 13 - COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general requirements for single-phase and polyphase, general-purpose, horizontal, small and medium, squirrel-cage induction motors for use on ac power systems up to 600 V and installed at equipment manufacturer's factory or shipped separately by equipment manufacturer for field installation.

1.3 COORDINATION

A. Coordinate features of motors, installed units, and accessory devices to be compatible with the following:

1. Motor controllers.
2. Torque, speed, and horsepower requirements of the load.
3. Ratings and characteristics of supply circuit and required control sequence.
4. Ambient and environmental conditions of installation location.

PART 2 - PRODUCTS

2.1 GENERAL MOTOR REQUIREMENTS

A. Manufacturers: Subject to compliance with the requirements, provide products by one of the following:

1. Baldor (Basis of design)

B. Comply with NEMA MG 1 unless otherwise indicated.

C. Comply with IEEE 841 for severe-duty motors.

D. Motors to have three (3) year warranty.

E. Efficiency rating shall appear on nameplate and shall be not less than as follows:

MINIMUM NOMINAL FULL LOAD EFFICIENCY FOR NEMA DESIGN A, NEMA DESIGN B, and IEC DESIGN N MOTORS (EXLCUDING FIRE PUMP) ELECTRICAL MOTORS AT 60 HZ								
	NOMINAL FULL-LOAD EFFICIENCY (%)							
	2 POLES		4 POLES		6 POLES		8 POLES	
HP (kW)	OPEN	ENCLOSED	OPEN	ENCLOSED	OPEN	ENCLOSED	OPEN	ENCLOSED
1 (.75)	77.0	77.0	85.5	85.5	82.5	82.5	75.5	75.5
1.5 (1.1)	84.0	84.0	86.5	86.5	86.5	87.5	77.0	78.5
2 (1.5)	85.5	85.5	86.5	86.5	87.5	88.5	86.5	84.0
3 (2.2)	85.5	86.5	89.5	89.5	88.5	89.5	87.5	85.5
5 (3.7)	86.5	88.5	89.5	89.5	89.5	89.5	88.5	86.5
7.5 (5.5)	88.5	89.5	91.0	91.7	90.2	91.0	89.5	86.5
10 (7.5)	89.5	90.2	91.7	91.7	91.7	910	90.2	89.5

MINIMUM NOMINAL FULL-LOAD EFFICIENCIES FOR NEMA DESIGN C AND IEC DESIGN H MOTORS AT 60 HZ						
	NOMINAL FULL-LOAD EFFICIENCY (%)					
	4 POLES		6 POLES		8 POLES	
HP (kW)	OPEN	ENCLOSED	OPEN	ENCLOSED	OPEN	ENCLOSED
1 (.75)	85.5	85.5	82.5	82.	75.5	75.5
1.5 (1.1)	86.5	86.5	86.5	87.5	77.0	78.5
2 (1.5)	86.5	86.5	87.5	88.5	84.0	84.0
3 (2.2)	89.5	89.5	88.5	89.5	85.5	85.5
5 (3.7)	89.5	89.5	89.5	89.5	86.5	86.5
7.5 (5.5)	91.0	91.7	90.2	91.0	86.5	86.5
10 (7.5)	91.7	91.7	91.7	91.0	89.5	89.5

MINIMUM AVERAGE FULL LOAD EFFICIENCY POLYPHASE SMALL ELECTRIC MOTORS			
	OPEN MOTORS		
	2 POLES	4 POLES	6 POLES
HP	3600 RPM	1800 RPM	1200 RPM
0.25	95.6	69.5	67.5
0.33	69.5	73.4	71.4
0.50	73.4	78.2	75.3
1.0	77.0	83.5	82.5
1.5	84.0	86.5	83.8
2.0	85.5	86.5	N/A
3.0	85.5	86.9	N/A

MINIMUM AVERAGE FULL LOAD EFFICIENCY FOR CAPACITOR-START CAPACITOR-RUN AND CAPACITOR-START INDUCTION-RUN SMALL ELECTRIC MOTORS			
	OPEN MOTORS		
HP	2 POLES 3600 RPM	4 POLES 1800 RPM	6 POLES 1200 RPM
0.25	66.6	68.5	62.2
0.33	70.5	72.4	66.6
0.50	72.4	76.2	76.2.
0.75	76.2	81.8	80.2
1.0	80.4	82.6	81.1
1.5	81.5	83.8	N/A
2.0	82.9	84.5	N/A
3.0	84.1	N/A	N/A

2.2 MOTOR CHARACTERISTICS

A. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet above sea level.

B. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.

C. Motor Application: Provide the following enclosure types unless noted:

Environment/Location	Motor Enclosure Type
General Purpose	Open drip-proof with cast iron frame, TEFC with cast iron frame, or encapsulated
Outdoors, below grade or high humidity	TEFC with cast iron frame
Hazardous	Explosion-proof
Packaged Refrigeration Compressors	Hermetic or semi-hermetic

2.3 POLYPHASE MOTORS

A. Description: NEMA MG 1, Design B, medium induction motor.

B. Efficiency: Energy efficient, as defined in NEMA MG 1.

C. Service Factor: 1.15.

D. Multispeed Motors: Variable torque.

1. For motors with 2:1 speed ratio, consequent pole, single winding.
2. For motors with other than 2:1 speed ratio, separate winding for each speed.

E. Multispeed Motors: Separate winding for each speed.

F. Rotor: Random-wound, squirrel cage.

G. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading.

H. Temperature Rise: Match insulation rating.

I. Insulation: Class F.

J. Code Letter Designation:

1. Motors Smaller than 15 HP: Manufacturer's standard starting characteristic.

2.4 POLYPHASE MOTORS WITH ADDITIONAL REQUIREMENTS

A. Motors Used with Reduced-Voltage and Multispeed Controllers: Match wiring connection requirements for controller with required motor leads. Provide terminals in motor terminal box, suited to control method.

B. Motors Used with Variable Frequency Controllers: Ratings, characteristics, and features coordinated with and approved by controller manufacturer.

1. Windings: Copper magnet wire with moisture-resistant insulation varnish, designed and tested to resist transient spikes, high frequencies, and short time rise pulses produced by pulse-width modulated inverters.
2. Energy- and Premium-Efficient Motors: Class B temperature rise; Class F insulation.
3. Inverter-Duty Motors: Class F temperature rise; Class H insulation.
4. Thermal Protection: Comply with NEMA MG 1 requirements for thermally protected motors.

C. Severe-Duty Motors: Comply with IEEE 841, with 1.15 minimum service factor.

2.5 ELECTRONICALLY COMMUTATED MOTORS (ECM)

A. Motor Enclosure: Open Type

B. DC ECM specifically designed for the stated application.

C. Permanently lubricated, heavy duty ball bearing type to match with the fan load and pre-wired to the specific voltage and phase.

D. Internal motor circuitry to convert AC power supplied to the equipment to DC power to operate the motor.

E. Motor shall be speed controllable down to 20% of full speed (80% turndown).

F. Motor shall meet the stated efficiency based on HP, but shall be not be less than 85% efficient at any HP.

2.6 SINGLE-PHASE MOTORS

A. Motors larger than 1/20 hp shall be one of the following, to suit starting torque and requirements of specific motor application:

1. Permanent-split capacitor.
2. Split phase.
3. Capacitor start, inductor run.
4. Capacitor start, capacitor run.

B. Multispeed Motors: Variable-torque, permanent-split-capacitor type.

C. Bearings: Prelubricated, antifriction ball bearings or sleeve bearings suitable for radial and thrust loading.

D. Motors 1/20 HP and Smaller: Shaded-pole type.

E. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.

2.7 SHAFT GROUNDING RINGS

A. Motors for use with Variable Speed Drives:

1. Shaft Grounding ring on NEMA Premium and inverter duty motors consisting of conductive microfibers and grounding path.

B. Shaft Grounding Kit for Field Installation:

1. Field applied shaft grounding ring for motors controlled by variable frequency drives designed to be installed by the contractor.

PART 3 - EXECUTION

3.1 MOTORS

A. Furnished by the equipment manufacturer and selected and installed for the intended use. Motors to be accessible for maintenance and, where applicable, belt adjustment.

3.2 SHAFT GROUNDING RINGS

A. Wire Shaft Grounding Kit on motors for use with variable frequency drives:

1. Ensure shaft grounding kit is installed on motor in accordance with manufacturer's recommendations.
2. Shaft grounding ring (SGR) is bolted directly to the motor end bracket for installed with conductive epoxy to ensure ground connection from the SGR to the motor frame.

END OF SECTION 230513

SECTION 23 05 93 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Balancing Air Systems:

a. Constant-volume air systems.

1.3 DEFINITIONS

A. AABC: Associated Air Balance Council.

B. NEBB: National Environmental Balancing Bureau.

C. TAB: Testing, adjusting, and balancing.

D. TAB Specialist: An entity engaged to perform TAB Work.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: Within 45 days of Contractor's Notice to Proceed, submit documentation that the TAB contractor and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.

B. Certified TAB reports.

C. Instrument calibration reports, to include the following:

1. Instrument type and make.
2. Serial number.
3. Application.
4. Dates of use.
5. Dates of calibration.

1.5 QUALITY ASSURANCE

A. TAB Contractor Qualifications: Engage a TAB entity currently and for the duration of the project, certified by NEBB or AABC.

1. TAB Field Supervisor: Employee of the TAB contractor and currently certified by NEBB or AABC.
2. TAB Technician: Employee of the TAB contractor and individual who is currently certified by NEBB or AABC as a TAB technician.
3. TAB contractor shall maintain NEBB or AABC certification for the duration of the project.

B. Certify TAB field data reports and perform the following:

1. Review field data reports to validate accuracy of data and to prepare certified TAB reports.
2. Certify that the TAB team complied with the approved TAB plan and the procedures specified and referenced in this Specification.

C. TAB Report Forms: Use standard TAB contractor's forms approved by Engineer.

D. Instrumentation Type, Quantity, Accuracy, and Calibration: As described in ASHRAE 111, Section 5, "Instrumentation."

E. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."

F. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.7.2.3 - "System Balancing."

1.6 PROJECT CONDITIONS

A. Partial Owner Occupancy: Owner may occupy completed areas of building before Substantial Completion. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

1.7 COORDINATION

A. Notice: Provide seven days' advance notice for each test. Include scheduled test dates and times.

B. Perform TAB after leakage and pressure tests on air and water distribution systems have been satisfactorily completed.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Provide all required instrumentation and tools, including but not limited to ladders, recording meters, gauges, thermometers, voltmeters, anemometers, Pitot tubes, inclined gauge manometers, magnehelic gauges, amprobes, psychometers, and tachometers. Instruments used shall be accurately calibrated as per AABC or NEBB requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.

B. Examine systems for installed balancing devices, such as test ports, gage cocks, and manual volume dampers. Verify that locations of these balancing devices are accessible.

C. Examine the approved submittals for HVAC systems and equipment.

D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems' output, and statements of philosophies and assumptions about HVAC system and equipment controls.

E. Examine equipment performance data including fan and pump curves.

1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.
2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design." Compare results with the design data and installed conditions.

F. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.

G. Examine test reports specified in individual system and equipment Sections.

H. Examine HVAC equipment and filters and verify that bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.

I. Examine operating safety interlocks and controls on HVAC equipment.

J. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2 PREPARATION

A. Prepare a TAB plan that includes strategies and step-by-step procedures.

B. Complete system-readiness checks and prepare reports. Verify the following:

1. Permanent electrical-power wiring is complete.
2. Automatic temperature-control systems are operational.
3. Equipment and duct access doors are securely closed.
4. Balance, smoke, and fire dampers are open.
5. Ceilings are installed in critical areas where air-pattern adjustments are required and access to balancing devices is provided.
6. Windows and doors can be closed so indicated conditions for system operations can be met.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. Perform testing and balancing procedures on each system according to the procedures contained in NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems" in this Section.

1. Comply with requirements in ASHRAE 62.1-2007, Section 7.2.2, “Air Balancing."

B. Cut insulation, ducts, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.

1. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
2. After testing and balancing, install test ports and duct access doors that comply with requirements in Division 23 Section "Air Duct Accessories."
3. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish according to Division 23 Section "HVAC Insulation."

C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.

D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Crosscheck the summation of required outlet volumes with

required fan volumes.

B. For variable-air-volume systems, develop a plan to simulate diversity.

C. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.

D. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.

E. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.

F. Verify that motor starters are equipped with properly sized thermal protection.

G. Check dampers for proper position to achieve desired airflow path.

H. Check for airflow blockages.

I. Check condensate drains for proper connections and functioning.

J. Check for proper sealing of air-handling-unit components.

K. Verify that air duct system is sealed as specified in Division 23 Section "Metal Ducts."

3.5 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer. Provide sheaves and belts as required to achieve indicated airflows.

1. Measure total airflow.

    a. Where sufficient space in ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow.

2. Measure fan static pressures as follows to determine actual static pressure:

    a. Measure outlet static pressure as far downstream from the fan as practical and upstream from restrictions in ducts such as elbows and transitions.
    b. Measure static pressure directly at the fan outlet or through the flexible connection.
    c. Measure inlet static pressure of single-inlet fans in the inlet duct as near the fan as possible, upstream from the flexible connection, and downstream from duct restrictions.
    d. Measure inlet static pressure of double-inlet fans through the wall of the plenum that houses the fan.

3. Measure static pressure across each component that makes up an air-handling unit, rooftop unit, and other air-handling and -treating equipment.

    a. Report the cleanliness status of filters and the time static pressures are measured.

4. Measure static pressures entering and leaving other devices, such as sound traps, heat-recovery equipment, and air washers, under final balanced conditions.

5. Review Record Documents to determine variations in design static pressures versus actual static pressures. Calculate actual system-effect factors. Recommend adjustments to accommodate actual conditions.
6. Obtain approval from Architect for adjustment of fan speed higher or lower than indicated speed. Comply with requirements in Division 23 Sections for air-handling units for adjustment of fans, belts, and pulley sizes to achieve indicated air-handling-unit performance.
7. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload will occur. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.

B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows within specified tolerances.

1. Measure airflow of submain and branch ducts.

a. Where sufficient space in submain and branch ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow for that zone.

2. Measure static pressure at a point downstream from the balancing damper and adjust volume dampers until the proper static pressure is achieved.
3. Remeasure each submain and branch duct after all have been adjusted. Continue to adjust submain and branch ducts to indicated airflows within specified tolerances.

C. Measure air outlets and inlets without making adjustments.

1. Measure terminal outlets using a direct-reading hood or outlet manufacturer's written instructions and calculating factors.

D. Adjust air outlets and inlets for each space to indicated airflows within specified tolerances of indicated values. Make adjustments using branch volume dampers rather than extractors and the dampers at air terminals.

1. Adjust each outlet in same room or space to within specified tolerances of indicated quantities without generating noise levels above the limitations prescribed by the Contract Documents.
2. Adjust patterns of adjustable outlets for proper distribution without drafts. Provide sheaves and belts as required to achieve indicated airflows.

3.6 PROCEDURES FOR MOTORS

A. Motors, 1/2 HP and Larger: Test at final balanced conditions and record the following data:

1. Manufacturer's name, model number, and serial number.

2. Motor horsepower rating.
3. Motor rpm.
4. Efficiency rating.
5. Nameplate and measured voltage, each phase.
6. Nameplate and measured amperage, each phase.
7. Starter thermal-protection-element rating.

B. Motors Driven by Variable-Frequency Controllers: Test for proper operation at speeds varying from minimum to maximum. Test the manual bypass of the controller to prove proper operation. Record observations including name of controller manufacturer, model number, serial number, and nameplate data.

3.7 PROCEDURES FOR CONDENSING UNITS

A. Verify proper rotation of fans.

B. Measure entering- and leaving-air temperatures.

C. Record compressor data.

3.8 TOLERANCES

A. Set HVAC system's air flow rates and water flow rates within the following tolerances:

1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
2. Air Outlets and Inlets: Plus or minus 10 percent.
3. Heating-Water Flow Rate: Plus or minus 10 percent.

3.9 REPORTING

A. Initial Construction-Phase Report: Based on examination of the Contract Documents as specified in "Examination" Article, prepare a report on the adequacy of design for systems' balancing devices. Recommend changes and additions to systems' balancing devices to facilitate proper performance measuring and balancing. Recommend changes and additions to HVAC systems and general construction to allow access for performance measuring and balancing devices.

B. Status Reports: Prepare weekly progress reports to describe completed procedures, procedures in progress, and scheduled procedures. Include a list of deficiencies and problems found in systems being tested and balanced. Prepare a separate report for each system and each building floor for systems serving multiple floors.

3.10 FINAL REPORT

A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.

1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
2. Include a list of instruments used for procedures, along with proof of calibration.

B. Final Report Contents: In addition to certified field-report data, include the following:
1. Fan curves.
2. Manufacturers' test data.
3. Field test reports prepared by system and equipment installers.
4. Other information relative to equipment performance; do not include Shop Drawings and product data.

C. General Report Data: In addition to form titles and entries, include the following data:

1. Title page.
2. Name and address of the TAB contractor.
3. Project name.
4. Project location.
5. Architect's name and address.
6. Engineer's name and address.
7. Contractor's name and address.
8. Report date.
9. Signature of TAB supervisor who certifies the report.
10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
11. Summary of contents including the following:

    a. Indicated versus final performance.
    b. Notable characteristics of systems.
    c. Description of system operation sequence if it varies from the Contract Documents.

12. Nomenclature sheets for each item of equipment.
13. Data for terminal units, including manufacturer's name, type, size, and fittings.
14. Notes to explain why certain final data in the body of reports vary from indicated values.
15. Test conditions for fans and pump performance forms including the following:

    a. Settings for outdoor-, return-, and exhaust-air dampers.
    b. Conditions of filters.
    c. Cooling coil, wet- and dry-bulb conditions.
    d. Face and bypass damper settings at coils.
    e. Fan drive settings including settings and percentage of maximum pitch diameter.
    f. Inlet vane settings for variable-air-volume systems.
    g. Settings for supply-air, static-pressure controller.
    h. Other system operating conditions that affect performance.

D. Air-Handling-Unit Test Reports: For air-handling units with coils, include the following:

1. Unit Data:

    a. Unit identification.
    b. Location.

c. Make and type.
d. Model number and unit size.
e. Manufacturer's serial number.
f. Unit arrangement and class.
g. Discharge arrangement.
h. Sheave make, size in inches, and bore.
i. Center-to-center dimensions of sheave, and amount of adjustments in inches.
j. Number, make, and size of belts.
k. Number, type, and size of filters.

2. Motor Data:

a. Motor make, and frame type and size.
b. Horsepower and rpm.
c. Volts, phase, and hertz.
d. Full-load amperage and service factor.
e. Sheave make, size in inches, and bore.
f. Center-to-center dimensions of sheave, and amount of adjustments in inches.

3. Test Data (Indicated and Actual Values):

a. Total air flow rate in cfm.
b. Total system static pressure in inches wg.
c. Fan rpm.
d. Discharge static pressure in inches wg.
e. Filter static-pressure differential in inches wg.
f. Coil static-pressure differential in inches wg.
g. Outdoor airflow in cfm
h. Return airflow in cfm
i. Relief airflow in cfm
j. Outdoor-air damper position.
k. Return-air damper position.
l. Relief-air damper position.

4. Plate heat exchanger test report

a. Exhaust entering and leaving air temperature in deg F
b. Outside air and supply entering and leaving air temperature in deg F
c. Face and bypass damper position

E. Gas-Fired Heat Apparatus Test Reports: In addition to manufacturer's factory startup equipment reports, include the following:

1. Unit Data:

a. Output capacity in Btu/h.
b. Ignition type.
c. Burner-control types.

2. Test Data (Indicated and Actual Values):

a. Total air flow rate in cfm.

b. Entering-air temperature in deg F.
c. Leaving-air temperature in deg F.
d. Air temperature differential in deg F.
e. Entering-air static pressure in inches wg.
f. Leaving-air static pressure in inches wg.
g. Air static-pressure differential in inches wg.
h. Low-fire fuel input in Btu/h.
i. High-fire fuel input in Btu/h.
j. Manifold pressure in psig.
k. High-temperature-limit setting in deg F.
l. Operating set point in Btu/h.
m. Motor voltage at each connection.
n. Motor amperage for each phase.
o. Heating value of fuel in Btu/h

F. Fan Test Reports: For supply, return, and exhaust fans, include the following:

1. Fan Data:

a. System identification.
b. Location.
c. Make and type.
d. Model number and size.
e. Manufacturer's serial number.
f. Arrangement and class.
g. Sheave make, size in inches, and bore.
h. Center-to-center dimensions of sheave, and amount of adjustments in inches.

2. Motor Data:

a. Motor make, and frame type and size.
b. Horsepower and rpm.
c. Volts, phase, and hertz.
d. Full-load amperage and service factor.
e. Sheave make, size in inches (mm), and bore.
f. Center-to-center dimensions of sheave, and amount of adjustments in inches (mm).
g. Number, make, and size of belts.

3. Test Data (Indicated and Actual Values):

a. Total airflow rate in cfm (L/s).
b. Total system static pressure in inches wg.
c. Fan rpm.
d. Discharge static pressure in inches wg.
e. Suction static pressure in inches wg.

G. Round and Rectangular Duct Traverse Reports: Include a diagram with a grid representing the duct cross-section and record the following:

1. Report Data:

a. System and air-handling-unit number.
b. Location and zone.
c. Traverse air temperature in deg F.
d. Duct static pressure in inches wg.
e. Duct size in inches.
f. Duct area in sq. ft..
g. Indicated air flow rate in cfm.
h. Indicated velocity in fpm.
i. Actual air flow rate in cfm.
j. Actual average velocity in fpm.

H. Instrument Calibration Reports:

1. Report Data:

a. Instrument type and make.
b. Serial number.
c. Application.
d. Dates of use.
e. Dates of calibration.

3.11 INSPECTIONS

A. Initial Inspection:

1. After testing and balancing are complete, operate each system and randomly check measurements to verify that the system is operating according to the final test and balance readings documented in the final report.
2. Check the following for each system:

a. Measure airflow of at least 10 percent of air outlets.
b. Measure room temperature at each thermostat/temperature sensor. Compare the reading to the set point.
c. Verify that balancing devices are marked with final balance position.
d. Note deviations from the Contract Documents in the final report.

B. Final Inspection:

1. After initial inspection is complete and documentation by random checks verifies that testing and balancing are complete and accurately documented in the final report, request that a final inspection be made by Architect.
2. The TAB contractor's test and balance engineer shall conduct the inspection in the presence of Architect.
3. Architect shall randomly select measurements, documented in the final report, to be rechecked. Rechecking shall be limited to either 10 percent of the total measurements recorded or the extent of measurements that can be accomplished in a normal 8-hour business day.
4. If rechecks yield measurements that differ from the measurements documented in the final report by more than the tolerances allowed, the measurements shall be noted as

"FAILED."

5. If the number of "FAILED" measurements is greater than 10 percent of the total measurements checked during the final inspection, the testing and balancing shall be considered incomplete and shall be rejected.

C. TAB Work will be considered defective if it does not pass final inspections. If TAB Work fails, proceed as follows:

1. Recheck all measurements and make adjustments. Revise the final report and balancing device settings to include all changes; resubmit the final report and request a second final inspection.
2. If the second final inspection also fails, Owner may contract the services of another TAB contractor to complete TAB Work according to the Contract Documents and deduct the cost of the services from the original TAB contractor's final payment.

D. Prepare test and inspection reports.

3.12 ADDITIONAL TESTS

A. Provide additional TAB visits as required to accommodate project scheduling and phasing.

B. Seasonal Periods: If initial TAB procedures were not performed during near-peak summer and winter conditions, perform additional TAB during near-peak summer and winter conditions.

END OF SECTION 230593

SECTION 23 07 13 - DUCT INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. All Work shall comply with the requirements of the 2015 Wisconsin Energy Code including ASHRAE 90.1-2013, manufacturer's requirements for installation and these specifications. In the event of conflicts between these documents, the more stringent requirements shall met.

1.2 SUMMARY

A. Section includes insulating the following duct services:

1. Indoor, concealed and exposed air duct

B. Related Sections:

1. Division 23 Section "Metal Ducts" for duct liners.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied if any).

B. Detail application schedule of intended insulation type for each type of application.

C. Installation guide for each type of insulation specified. Highlight intended installation method.

1.4 INFORMATIONAL SUBMITTALS

A. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of insulation materials, sealers, attachments, cements, and jackets, with requirements indicated. Include dates of tests and test methods employed.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.7 COORDINATION

A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."

B. Coordinate clearance requirements with duct Installer for duct insulation application. Before preparing ductwork Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.8 SCHEDULING

A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.

B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Comply with requirements in "Duct Insulation Schedule, General" and "Ductwork Insulation Schedule" articles for where insulating materials shall be applied.

B. Products shall not contain asbestos, lead, mercury, or mercury compounds.

C. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.

D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.

E. Fiberglass Blanket Insulation:

1. Insulation Blanket meeting ASTM C 553, Type II, ASTM C 1290, Type III, and ASTM C 1138.
2. 'K' Value of 0.27 at 75°F mean temperature. Maximum Service Temperature (Faced): 250°F.
3. Vapor Retarder Jacket: ASJ conforming to ASTM C 1136 Type I, II, III, IV, VIII or FSK conforming to ASTM C 1136 Type II, IV. Provide ASJ jacket for ductwork to be painted.
4. Installation: Maximum allowable compression is 25%.
5. Density: Minimum 1.0 PCF.

F. Fiberglass Board Insulation:

1. Insulation Board meeting ASTM C 612 Type IA, IB and II, ASTM C 795 and ASTM C 1138.

2. 'K' Value of 0.23 at 75°F mean temperature. Maximum Service Temperature: 450º F.

3. Vapor Retarder Jacket: ASJ conforming to ASTM C 1136 Type I, or FSK or conforming to ASTM C 1136 Type II, IV. Provide ASJ jacket for ductwork to be painted.

4. Concealed Areas: Minimum 3 lb./ft.3.

5. Exposed Areas: 6 lb./ft.3 minimum density for duct less than 8 ft. - 0 in. above finished floor or where indicated in these specifications or on the drawings.

G. Acceptable Manufacturers:

1. Fiberglass: Knauf, John Manville, Owen-Corning, Certainteed.

2.2 ADHESIVES

A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.

B. Fiberglass Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.

1. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:
2. For indoor applications, use adhesive that has a VOC content of 80 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.

1. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:

2. For indoor applications, use adhesive that has a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.3 SEALANTS

A. FSK and Metal Jacket Flashing Sealants:

1. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:
2. Materials shall be compatible with insulation materials, jackets, and substrates.
3. Fire- and water-resistant, flexible, elastomeric sealant.
4. Service Temperature Range: Minus 40 to plus 250 deg F.
5. Color: Aluminum.
6. For indoor applications, use sealants that have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.4 FACTORY-APPLIED JACKETS

A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:

1. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.

2.5 TAPES

A. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C 1136.

1. Products: Subject to compliance with requirements, provide one of the following:

a. ABI, Ideal Tape Division; 428 AWF ASJ.
b. Avery Dennison Corporation, Specialty Tapes Division; Fasson 0836.
c. Compac Corporation; 104 and 105.
d. Venture Tape; 1540 CW Plus, 1542 CW Plus, and 1542 CW Plus/SQ

2. Width: 3 inches
3. Thickness: 6.5 mils
4. Adhesion: 90 ounces force/inch in width.
5. Elongation: 2 percent.
6. Tensile Strength: 40 lbf/inch in width.
7. FSK Tape Disks and Squares: Precut disks or squares of FSK tape

2.6 SECUREMENTS

A. Insulation Pins and Hangers:

1. Capacitor-Discharge-Weld Pins:

    a. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:
    b. Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.106-inch-diameter shank, length to suit depth of insulation indicated.

2. Cupped-Head, Capacitor-Discharge-Weld Pins:

    a. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:
    b. Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.106-inch-diameter shank, length to suit depth of insulation indicated with integral 1-1/2-inch galvanized carbon-steel washer.

3. Insulation-Retaining Washers:

    a. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:
    b. Self-locking washers formed from 0.016-inch- thick, galvanized-steel sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.
    c. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap in exposed locations.

2.7 DUCT LINER

A. Flexible Elastomeric Noise Reducing Duct Liner: Preformed, cellular, closed-cell, sheet materials complying with ASTM C 534, Type II, Grade 1; and with NFPA 90A or NFPA 90B.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Armacell LLC, Coilflex.
    b. Aeroflex USA Inc
    c. Rubatex International, LLC

2. Surface-Burning Characteristics: Maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
3. Minimum thermal conductivity: .25 BTU-in/h-ft^2-F
4. Rated for 180 degree F max and -297 degree F min
5. Noncorrosive
6. Antimicrobial
7. Sound transmission rating: 25
8. Liner Adhesive: As recommended by insulation manufacturer and complying with NFPA 90A or NFPA 90B.

    a. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

b. Adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

B. Shop Application of Duct Liner: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 7-11, "Flexible Duct Liner Installation."

1. Adhere a single layer of indicated thickness of duct liner with at least 90 percent adhesive coverage at liner contact surface area. Attaining indicated thickness with multiple layers of duct liner is prohibited.
2. Apply adhesive to transverse edges of liner facing upstream that do not receive metal nosing.
3. Butt transverse joints without gaps, and coat joint with adhesive.
4. Fold and compress liner in corners of rectangular ducts or cut and fit to ensure butted-edge overlapping.
5. Do not apply liner in rectangular ducts with longitudinal joints, except at corners of ducts, unless duct size and dimensions of standard liner make longitudinal joints necessary.
6. Apply adhesive coating on longitudinal seams in ducts.
7. Adhere to duct with adhesive and secure liner with mechanical fasteners 4 inches from corners and at intervals not exceeding 12 inches transversely; at 3 inches from transverse joints and at intervals not exceeding 18 inches longitudinally.
8. Secure transversely oriented liner edges facing the airstream with metal nosings that have either channel or "Z" profiles or are integrally formed from duct wall.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.

1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of ducts and fittings.

B. Install insulation materials, vapor barriers or retarders, jackets, and thicknesses required for each item of duct system as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

F. Keep insulation materials dry during application and finishing.

G. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

H. Install insulation with least number of joints practical.

I. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

1. Install insulation continuously through hangers and around anchor attachments.
2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.

J. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

K. Install insulation with factory-applied jackets as follows:

1. Draw jacket tight and smooth.
2. Cover circumferential joints with 3-inch-wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches O.C.
3. Overlap jacket longitudinal seams at least 1-1/2 inches. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches O.C.

    a. For below ambient services, apply vapor-barrier mastic over staples.

4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to duct flanges and fittings.

L. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.

M. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

N. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

3.4 PENETRATIONS

A. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.

B. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Terminate insulation at fire damper sleeves for fire-rated wall and partition penetrations. Externally insulate damper sleeves to match adjacent insulation and overlap duct insulation at least 2 inches.

1. Seal penetrations through fire-rated assemblies. Comply with requirements in Division 07 Section "Penetration Firestopping

C. Insulation Installation at Floor Penetrations:

1. Duct: For penetrations through fire-rated assemblies, terminate insulation at fire damper sleeves and externally insulate damper sleeve beyond floor to match adjacent duct insulation. Overlap damper sleeve and duct insulation at least 2 inches.
2. Seal penetrations through fire-rated assemblies. Comply with requirements in Division 07 Section "Penetration Firestopping."

3.5 INSTALLATION OF FIBERGLASS INSULATION

A. Blanket Insulation Installation on Ducts and Plenums: Secure with insulation pins.

1. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:

a. Draw jacket tight and smooth.
b. Cover circumferential joints with 3-inch- wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
c. Overlap jacket longitudinal seams at least 1-1/2 inches. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 4 inches o.c.
d. On rectangular duct sides with dimensions 24 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 18 inches O.C.
e. On rectangular duct sides with dimensions larger than 24 inches, place pins 18 inches O.C. each way and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing. Provide

pins and clip washers at 18" O.C. in the bottom of duct, minimum of 2 rows longitudinally.

f. On round ductwork at 24" diameter and greater provide pins and clip washers at 18" O.C. in both directions from the horizontal centerline of duct downward.
g. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
h. Do not over-compress insulation during installation.
i. Impale insulation over pins and attach speed washers.
j. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
k. At all ductwork with external flanges, provide an 8" (min) piece of insulation wrapped around the duct, centered on the flange and securely taped.
l. Sagging duct insulation will not be acceptable.
m. Vapor retarders should overlap a minimum of two inches at all seams and be sealed with appropriate pressure sensitive tape. When applying pressure sensitive tapes, the tape must be firmly rubbed with the proper sealing tool to make sure the closure is secured. Follow tape manufacturers recommendations.
n. For below ambient services, apply vapor-barrier mastic over staples.
o. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
p. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to duct flanges and fittings.

2. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1 inch O.C. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.

    a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
    b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches

3. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
4. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
5. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.
6. Overlap unfaced blankets a minimum of 2 inches on longitudinal seams and end joints. At end joints, secure with steel bands spaced a maximum of 18 inches O.C.
7. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.

8. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch- wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches O.C.

B. Board Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.

1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 50 percent coverage of duct and plenum surfaces.
2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:

    a. On all duct sides, space pins 12 inches O.C. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
    b. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
    c. Do not overcompress insulation during installation.
    d. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
    e. Vapor retarders should overlap a minimum of two inches at all seams and be sealed with appropriate pressure sensitive tape. When applying pressure sensitive tapes, the tape must be firmly rubbed with the proper sealing tool to make sure the closure is secured. Follow tape manufacturers recommendations.

4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1 inch O.C. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.

    a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
    b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.

5. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
6. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
7. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints
8. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Groove and score insulation to fit as closely as possible to outside and

inside radius of elbows. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.

9. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches O.C. Tape and seal all ends and joints.
10. Vapor retarders should overlap a minimum of two inches at all seams and be sealed with appropriate pressure sensitive tape. When applying pressure sensitive tapes, the tape must be firmly rubbed with the proper sealing tool to make sure the closure is secured. Follow tape manufacturers recommendations.

3.6 FIELD QUALITY CONTROL

A. Perform tests and inspections.

1. Inspect ductwork, randomly selected by Architect, by removing field-applied jacket and insulation in layers in reverse order of their installation. Extent of inspection shall be limited to one location for each duct system defined in the "Duct Insulation Schedule, General" Article.

B. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

3.7 DUCT INSULATION SCHEDULE, GENERAL

A. Items Not Insulated:

1. Metal ducts with duct liner of sufficient thickness to comply with energy code and ASHRAE/IESNA 90.1.
2. Factory-insulated flexible ducts.
3. Factory-insulated plenums and casings.
4. Flexible connectors.
5. Vibration-control devices.
6. Factory-insulated access panels and doors.

3.8 DUCTWORK INSULATION SCHEDULE

Service	**Insulation Material**	**Thickness**	**Remarks**
HVAC Supply	Within mechanical rooms or exposed at 8 feet or less above finished floor: Rigid fiberglass	1-1/2 in.	Min. installed R value of 6

	Concealed: Flexible fiberglass	2 in.	Min. installed R value of 6

Service	**Insulation Material**	**Thickness**	**Remarks**
Interior ductwork indicated to be lined		Not Insulated	
Return and exhaust air ducts within heated building envelope		Not Insulated	
Neutral ventilation air supply (between 65°F and 80°F)		Not Insulated	
Outside air ducts and plenums, connections and mixing boxes and Combustion air ductwork	Rigid fiberglass	3 in.	Min. installed R value of 12 Provide neat fit at intake plenum

END OF SECTION 230713

SECTION 23 08 00 - COMMISSIONING OF HVAC

1.1 GENERAL

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions.

1.3 SUMMARY

A. Section includes commissioning process requirements for HVAC&R systems, assemblies, and equipment.

B. Related Sections:

1. Mechanical sections
2. Electrical sections
3. Division 01 Section "General Commissioning Requirements" for general commissioning process requirements.

1.4 ALLOWANCES

A. Labor, instrumentation, tools, and equipment costs for technicians for the performance of commissioning testing are covered by the "Schedule of Allowances" Article in Division 01 Section "Allowances."

1.5 DEFINITIONS

A. The commissioning agent; the commissioning agent shall be as designated by the owner, architect or engineer. The commissioning agent shall represent the owner in matters relative to the commissioning procedures as defined in this and other related section of the contract documents.

1. The contractor shall be as defined in the general conditions and in the contract documents.
2. The owner shall be as defined in the general conditions and in the contract documents.
3. The architect/designer shall be as defined in the general conditions and in the contract documents.

B. Commissioning terms

1. Design intent: The designer intention is as defined by the architect as to the purpose of the specific complete system or any of the system components.

2. Commissioning procedures; Documenting, calibrating, checking, inspecting, starting, testing, verifying and training required to assure the proper operations of the mechanical and electrical systems defined in the contract documents.

    a. Pre-commissioning: checklists, commissioning checklists, pre-start checklist, commissioning functional documentation, deviation reports, preliminary and final test reports completed by the contractor to assure the mechanical systems and electrical systems are completed in accordance with the contract documents, manufactures requirements and in compliance with the design intent.
    b. Commissioning functional tests are test that are of more detail than the start up tests performed by the contractor and/or the manufacture at start up.
    c. The commissioning procedure is a cooperative effort by the designer, installing contractor, manufacture and the commissioning agent to ensure that mechanical, electrical, and control equipment, systems and components meet the design intent and to document the systems operation and compliance to the design intent.
    d. The commissioning process includes the contractors' functions of start up, testing, balancing, calibration and set up of controls, training by the contractor.
    e. The commissioning procedure testing and monitoring may include specific testing, trending and logging of the systems and /or components.
    f. The contractor representative is an authorized contractor representative that shall be assigned as a qualified skilled technician to assist in the commissioning procedures.

3. Skilled technicians:

    a. Personnel with specific expert knowledge of the system, components and/or control of the mechanical or electrical elements of the commissioned systems.
    b. The skilled technician shall be qualified and have all tools required for commissioning the elements of the systems.
    c. The skilled technician shall demonstrate a willingness and attitude of cooperation. The technician may be removed from the process at the request of the designer. The contract must replace the technician in this event with a technician meeting the above requirements.

4. Seasonal commissioning:

    a. Seasonal commissioning pertains to testing under full load conditions during peak heating and peak cooling seasons, as well as part load conditions.
    b. Initial commissioning tests will be done as soon as contract work is completed, regardless of season.
    c. Subsequent commissioning tests will be undertaken as soon as practical to verify performance during the two seasons (peak heating, peak cooling or part load) not covered in initial testing.
    d. Individual mechanical and electrical systems specifications indicate which systems require seasonal testing.

C. Commissioning team

1. Each contractor will designate one person, responsible for representing that facet of the project, to be on the Commissioning team. This person shall be the same person that is the lead person for installing and/or supervising the work of the trade being represented.
2. The commissioning team shall consist of the Owner, Commissioning Agent, Construction Manager, Mechanical Contractor, Electrical Contractor, General Contractor, Mechanical Contractor and sub contractors, Electrical Contractor and sub contractors, Test and Balance Contractor, Temperature Controls Contractor and the Engineer.

1.6 COMMISSIONING DUTIES

A. Duties of Architect:

1. Submit copy of the Design Intent Data to Owner, and review with Owner for acceptability.
2. Incorporate Design Intent data into bid and contract documents for contractor pricing and performance.
3. Prepare Commissioning Procedures for each the system based on actual system configuration.
4. Incorporate Commissioning Procedures into bid and contract documents for contractor pricing and performance.
5. Develop an integrated commissioning schedule with input from the contractor and representatives of all the installers.
6. Not authorize commissioning tests until each system is complete, including start-up procedures.
7. Coordinate communications related to commissioning by receiving and distributing submittal reviews, deficiency notices, and test results.
8. Identify problems; notify responsible parties, and direct actions required to correct deficiencies in EEM equipment and systems.
9. Remove Energy Efficiency Measures disputes by performing research to determine the scope of the dispute, and informing the involved parties on the possible solutions to the dispute.
10. Notify the Contractor if Contractor-initiated system changes have been made that alter the commissioning process.
11. Determine the acceptance procedures for each item of the equipment and system. The criteria for acceptance of the equipment and systems will closely follow the test outline in each Section specifying the equipment.
12. Submit the final commissioning report including al submittals and test results for each to the Utility and Owner. Commissioning Report shall be included in Part 5 of each section of the Closeout Manual.
13. Recommend final acceptance of contractor’s work to the Owner when commissioning tests have been successfully completed.

B. Duties of Contractor:

1. Provide Commissioning Agent with access to the building and the work.

2. Provide input (in coordination with the installers) to the designer to develop an integrated commissioning schedule.

3. Coordinate work with commissioning work.
4. Ensure commissioning tasks and deliveries are performed in accordance with the Commissioning Schedule and Contract Documents.
5. Provide training to the Owner relative to the equipment components and the overall operation of the entire systems

C. Duties of Equipment and Systems Installers:

1. Review and approve Commissioning Procedures.

    a. Review is confined to ensuring test procedures are executable, will not damage equipment or systems, and will not affect warranties.
    b. Review pre-commissioning checklists and functional performance test plans and data sheets for capability of verifying that the equipment and systems meet the Design Intent.
    c. Provide assistance in functional performance testing and test and balancing, i.e. the TC contractor shall open all the vav boxes to test the unit at 100% speed so that the air flow measuring stations can be accurately calibrated.
    d. Consult with equipment and systems manufacturers as required to verify that tests will not damage equipment and systems.
    e. If installer deems it necessary for protecting equipment, they shall forward these documents to the appropriate manufacturer's representatives for review and editing.

2. Provide Skilled Technicians for execution of commissioning procedures including seasonal testing required after initial commissioning when required by Contract Documents.
3. Participate in resolution of disputes related to commissioning.
4. Provide qualified personnel for correction of deficiencies.
5. Train Owner's maintenance personnel in operation and maintenance of equipment and systems.
6. Submit operation and maintenance and as-built drawings for equipment and systems to Designer.
7. Installers shall cooperate with other Installers on commissioning Work that requires participation of multiple Installers.
8. Provide input (in coordination with the Contractor and other installers) to the Architect to develop an integrated commissioning schedule.
9. Commissioning does not relieve Installers from participating in the review process not diminish the Installer's role and obligations to complete other Work as required by Contacts Documents.

D. Duties of Commissioning Agent

1. Engage Commissioning Team

a. The Commissioning Team assists in planning, reviewing and coordination of commissioning activities with all disciplines involved in the building project. The Commissioning Team shall include the following members at a minimum. Contractors will not join the team until they are selected through the normal procurement process.

   i) Commissioning Leader
   ii) Facility Operations Manager (FOM)
   iii) Project Manager
   iv) Designers
   v) Contractors
   vi) Energy Modeler (if energy modeling is part of the project)
   vii) Guideline Leader

2. The Commissioning Leader facilitates and coordinates the efforts of the commissioning team. For Design and Construction Commissioning, the commissioning leader shall have a distinct role from the design team but may be employed within a firm providing design services. The Facility Operations Manager is accountable for facility performance during ongoing occupancy and will manage or perform ongoing operations and maintenance following construction. This person is available to participate throughout the design and construction process for continuity into final operation.
3. Coordination of Owner's Project Requirements (as required by guideline P.1A)
   The Owner's Project Requirements (OPR) shall quantify functional performance expectations and parameters for each system to be commissioned. The OPR provides the common understanding that focuses design, construction, and commissioning activities on the desired outcome. The OPR shall be written in objective and measurable terms. Quantify parameters such as space temperatures, humidity levels, lighting levels, sound levels, and ventilation rates when applied to the conditioned building spaces. The OPR shall be updated every time the owner accepts an alternate requirement or performance criteria – due to owner desires, schedule, or budget. This might occur through normal design evolution, value engineering, change orders, or other supplemental instructions during construction.
   The OPR shall include an updated SB 2030 Energy and Carbon Standard for the project related to Guidelines E.1 and renewable energy requirements under E.2 and updated as the program and the project are refined. During the Correction Period and On-Going Operations, the OPR helps the owner/operators understand the requirements of the owner. It also provides the benchmark for maintenance, repair, and replacement decisions
4. Coordination with Basis of Design (as required by guideline P.1C)
   The Basis of Design (BOD) is a narrative description of how the systems will be designed in order to achieve the Owner's Project Requirement acceptance criteria.
5. Commissioning Design Review
   At least once during each of the Design, Final Design, review the design progress against the goals of the Owners Project Requirements. Commissioning Design Review comments shall be documented in writing and responses prepared by the appropriate designers
6. Coordinate and direct the commissioning activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules and technical expertise.

7. Coordinate the commissioning work with the contractor and construction manager, to ensure that commissioning activities are being incorporated into the master schedule.
8. Plan and conduct commissioning meetings as needed and distribute minutes.
9. Performance Check: Commissioning Team shall review design as documented to verify that it meets the physical outcomes and operational performance defined at that phase. Performance areas include, but are not limited to:

    a. Owner's Project Requirements acceptance criteria for all required and additional pursued Guidelines.
    b. Requirements for specific operational scenarios of the building.

10. Measurability/Testability Check: Commissioning Team shall review design as documented to verify that it meets criteria for testing and verification of performance for Design and Construction Commissioning as well as Operations Commissioning monitoring during Ongoing Occupancy. Performance areas include, but are not limited to:

    a. Measurements and testing required during all phases of Design and Construction Commissioning.
    b. Measurement, monitoring, and control of energy, water, indoor environmental quality during ongoing occupancy.

11. Coordinate with Operations Commissioning and Energy Efficient Operations Manual Cooperate with the Operations Commissioning Team by incorporating design features required to perform Operations Commissioning. Refer to and coordinate with the completion of Guideline P.2A: SB 2030 Energy Efficient Operations Manual process.
12. List of I/O Data Points

    a. Submit a list of input and output (I/O) data points or sequence of operations as part of outcome documentation before the completion of the Final Design Phase. These shall be submitted for all computer-based control systems, e.g., HVAC, lighting controls which have programmable control logic.

13. Provide Cx Criteria & Scope for Construction Documents

    a. Provide a commissioning specification section for Division 1 of the project manual. The commissioning specification shall define and elaborate on the contractor's responsibilities as defined in the Commissioning Plan. Incorporate the Commissioning Plan into the contract documents by reference in order to communicate the context of the commissioning specification and information regarding other team member responsibilities.

14. Request and review additional information required to perform commissioning tasks, including O&M materials, contractor start-up and checkout procedures. Before startup, gather and review the current control sequences and interlocks and work with contractors and design engineers until sufficient clarity has been obtained, in writing, to be able to write detailed testing procedures.
15. Coordinate and direct commissioning activities.

16. Review normal Contractor submittals applicable to systems being commissioned for compliance with commissioning needs, concurrent with the A/E reviews.
17. Review requests for information and change orders for impact on commissioning and owner's objectives.
18. Review coordination drawings to ensure that trades are making a reasonable effort to coordinate.
19. Write and distribute construction checklists for commissioned equipment.
20. Develop an enhanced start-up and initial systems checkout plan with contractors for selected equipment.
21. Perform site visits, as necessary, to observe component and system installations. Attend selected planning and job-site meetings to obtain information on construction progress. Review construction meeting minutes for revisions/substitutions relating to the commissioning process. Assist in resolving any discrepancies.
22. Perform the following pre-functional tasks:

    a. Witness HVAC piping pressure test and flushing, enough to be confident that proper procedures were followed. Include testing documentation in the Commissioning Record.
    b. Witness any ductwork testing and cleaning enough to be confident that proper procedures were followed. Include documentation in the Commissioning Record.
    c. Document construction checklist completion by reviewing completed construction checklists and by selected site observation.
    d. Document systems startup by reviewing start-up reports and by selected site observation.
    e. Approve air and water systems balancing by spot testing and by reviewing completed reports and by selected site observation.

23. With necessary assistance and review from installing contractors, write the functional performance test procedures for equipment and systems. This will include manual functional testing, energy management control system trending and may include stand-alone datalogger monitoring.
24. Coordinate, witness and document manual functional performance tests performed by installing contractors. Coordinate retesting as necessary until satisfactory performance is achieved. The functional testing shall include operating the system and components through each of the written sequences of operation, and other significant modes and sequences, including startup, shutdown, unoccupied mode, manual mode, staging, miscellaneous alarms, power failure, security alarm when impacted and interlocks with other systems or equipment. Sensors and actuators shall be calibrated during construction check listing by the installing contractors and spot-checked by the commissioning provider during functional testing. Analyze functional performance trend logs and monitoring data to verify performance. a. Tests on respective HVAC equipment shall be executed, if possible, during both the heating and cooling season. However, some overwriting of control values to simulate conditions shall be allowed. Functional testing shall be done using conventional manual methods, control system trend logs, and read-outs or stand-alone dataloggers, to provide a high level of confidence in proper system function, as deemed appropriate by the commissioning provider and the Owner.

25. Prepare test plans for, assist with execution of, and document tests of commissioned equipment overseen by regulatory authorities and ensure that such tests meet the testing rigor desired by the Owner.
26. Maintain a master issues log and a separate record of functional testing. Report all issues as they occur directly to the Owner's Representative. Provide directly to the Owner's Representative written progress reports and test results with recommended actions.
27. Review equipment warranties to ensure that the Owner's responsibilities are clearly defined.
28. Oversee and review the training of the Owner's operating personnel prior to construction completion and system acceptance by the owner.

    a. Oversee the videotaping of this training.
    b. Review the creation of a classroom "owner's manual" that is to be kept in the classroom.
    c. Review the preparation of the O&M manuals for commissioned equipment.

29. Compile a Commissioning Record, which shall include:

    a. A brief summary report that includes a list of participants and roles, brief building description, overview of commissioning and testing scope, and a general description of testing and verification methods. For each piece of commissioned equipment, the report should contain the disposition of the commissioning provider regarding the adequacy of the equipment, documentation and training meeting the contract documents in the following areas:

        1) Equipment meeting the equipment specifications,
        2) Equipment installation,
        3) Functional performance and efficiency,
        4) Equipment documentation, and
        5) Operator training.

30. All outstanding non-compliance items shall be specifically listed. Recommendations for improvement to equipment or operations, future actions, commissioning process changes, etc. shall also be listed. Each non-compliance issue shall be referenced to the specific functional test, inspection, trend log, etc. where the deficiency is documented.
31. Also included in the Commissioning Record shall be the issues log, commissioning plan, progress reports, submittal and O&M manual reviews, training record, test schedules, construction checklists, start-up reports, functional tests, and trend log analysis.
32. Compile a Systems Manual that consists of the following and at least the parts listed under ASHRAE 202-2013 Part 14.2.3: Owner's Project Requirements (by owner); Design Narrative and Basis of Design (by designer); Performance Metrics, if completed during design; space and use descriptions, single line drawings and schematics for major systems (by designer); control drawings, sequences of control (by contractor); and a table of all setpoints and implications when changing them, schedules, instructions for operation of each piece of equipment for emergencies, seasonal adjustment, startup and shutdown, instructions for energy savings operations and descriptions of the energy savings strategies in the facility, recommendations for recommissioning frequency by equipment type, energy tracking recommendations, and recommended standard trend logs with a brief

description of what to look for in them (all by commissioning leader).

33. Deferred Verification

    a. Some of the system functional performance test procedures will not be practical or meaningful to complete prior to the Correction Period. This may be due to construction phasing, climate or other constraints. Those test procedures shall be completed at the earliest appropriate time, and the results of the tests shall be reported to the Owner and Project team. It shall be expected that deficiencies identified as part of this deferred testing executed after the Correction Period will be resolved by the project team as if they had been identified prior to the end of the Correction Period.

34. Warranty Period

    a. Coordinate and supervise required opposite season or deferred testing and deficiency corrections and provide the final testing documentation for the Commissioning Record and O&M manuals.
    b. Return to the site at 10 months into the 12-month warranty period as scheduled by the Owner's Representative, and review with facility staff the current building operation and the condition of outstanding issues related to the original and seasonal commissioning. Also interview facility staff and identify problems or concerns they have with operating the building as originally intended. Make suggestions for improvements and for recording these changes in the O&M manuals. Identify areas that may come under warranty or under the original construction contract. Assist facility staff in developing reports and documents and requests for services to remedy outstanding problems.

E. Duties of all parties

1. Attend all commissioning scope meetings and commissioning team meetings. These will take place on an every other week schedule unless progress of the project dictates otherwise.

1.7 PRODUCTS

A. TEST EQUIPMENT

1. Test Equipment:

    a. Contractor or installer shall furnish industry standard test equipment for performing tests.

B. Proprietary Test Equipment:

1. Contractor or Installer shall provide proprietary test equipment required by equipment manufacturer.
2. The contractor shall demonstrate test equipment use and assist in the commissioning process.
3. The contractor shall provide instrument calibration and maintain test equipment a recommended by manufacturer.

1.8 EXECUTION

A. TESTING PREPARATION - COMMISSIONING PROCEDURES AT THE SITE

1. Coordination of Tests:

a. The commissioning agent shall develop an integrated Commissioning Schedule with input from the Contractor and all installers.

b. Contractor shall coordinate schedules of all installer representatives, and enforce participation in commissioning tests according to the Commissioning Schedule.

c. An installer shall not test work by another installer.

d. When testing systems that include work by multiple installers, representatives of all effected installers must be present.

e. Installer shall complete commissioning checklists during equipment and system start-up.

f. Commissioning tests of systems may proceed prior to final completion of systems to expedite the testing progress if approved by Designer.

g. Do not initiate functional performance testing for equipment or systems in advance of their start-up and checkout by all affected Installers for that equipment or system.

h. Test and record Mechanical, Control, and Electrical systems through each mode of operation using Commissioning procedures.

2. Test Acceptance Criteria:

a. The criteria for acceptance of each test is only if that test results will be in accordance with and demonstrate the Design Intent.

b. Input will be sought when necessary from the Designer to determine if test results indicate compliance with the Design Intent.

c. The Designer will recommend acceptance or rejection of work based on the test results.

3. Resolution of Deficiencies:

a. Designer will review performance tests and notify the Contractor indicating the nature of deficiencies and steps to be taken.

b. Installer shall adjust defective equipment and systems to meet performance requirements under varying loads.

c. Contractor shall set the date for completion of corrective activities. This date shall be within fifteen (15) working days of the date the deficiency report was generated.

1) The correction of issues described in the deficiency report must be signed by the party responsible for correcting the deficiency, and returned to the Commissioning Agent within the 15 day period.

d. If the date for completion of corrective work passes without resolution of deficiencies, Owner reserves the right to obtain supplementary services and equipment to correct the problem as indicated in the General Conditions.

e. Commissioning procedures shall be aborted and considered failed, if any commissioning team member, for whom participation is scheduled, is not present

for the test.

1) This will not be considered a failure if the test is rescheduled 48 hours (minimum) in advance of the scheduled testing.

f. Installer shall perform additional commissioning procedures until the required system performance is obtained.

4. Re-checking and Re-testing Charges:

a. In the event of a second failure of a commissioning procedure for equipment and systems, the Contractor will be assessed charges by the Designer, and other commissioning review parties to do additional testing on the site for re-testing equipment and systems.

b. Charges will be based on each party's expenses, including normal hourly billing rates, time for re-testing, travel time, travel expenses, and per diem, if required.

B. O&M MANUAL

1. Ensure that Operation and Maintenance Manuals are accurate and complete. Forward this document to the Owner.

C. PRE-FUNCTIONAL START-UP

1. Start-up reports shall be completed by qualified installers responsible for installing the piece of equipment.

2. The Contractor shall be responsible for performing any additional manufacturers or local codes officials' start-up requirements at no additional cost to the Owner.

3. The Contractor is responsible for ensuring a factory-authorized service representative is present for star-up procedures where such representation is mandated to attend start-up.

4. The Contractor shall verify the equipment checklist is completed before operating the equipment.

5. The completed start-up checklists shall be returned to the Commissioning Agent.

6. The equipment requiring prefunctional testing include, but are not limited to, the following:

a. Boilers

b. Pumps

c. Air Handling Units

d. Ventilation Fans

e. VFD's

f. Air Terminal Units

g. Ductwork/Pipe Insulation

h. Pipework

i. Temperature Control

j. Temperature/Humidity Sensors

k. Pressure Sensors and Controllers

l. Sequence of Operation

m. Airflow Stations

n. Damper/Valve Actuators

o. Plumbing Equipment

p. Plumbing Piping Systems

q. Normal Power Electrical Systems

r. Lighting Control/Daylighting Systems

s. Emergency Power Systems

t. Fire/Life Safety Systems

7. Functional Start-Up

a. The equipment requiring functional testing may include all components of the mechanical system and is at the discretion of the Owner and Commissioning Agent. The minimum required shall be all components of the following:

1) HVAC system

2) Domestic system

END OF SECTION 230800

SECTION 23 31 13 - METAL DUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Single-wall rectangular ducts and fittings.
2. Single-wall round ducts and fittings.
3. Sheet metal materials.
4. Duct Liners.
5. Sealants and gaskets.
6. Hangers and supports.

B. Related Sections:

1. Division 23 Section "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
2. Division 23 Section "Air Duct Accessories" for dampers, sound-control devices, duct-mounting access doors and panels, turning vanes, and flexible ducts.

1.3 PERFORMANCE REQUIREMENTS

A. Delegated Duct Design: Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, shall comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" Volume Four and performance requirements and design criteria indicated in "Duct Schedule" Article.

B. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

C. Structural Performance: Hangers and supports for ductwork shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7

1.4 ACTION SUBMITTALS

A. Product Data: For each type of the following products:

1. Liners and adhesives.
2. Sealants and gaskets.

B. Field quality-control reports

1.5 QUALITY ASSURANCE

A. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-Up."

B. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."

PART 2 - PRODUCTS

2.1 SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" volume four based on indicated static-pressure class unless otherwise indicated.

B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.2 SINGLE-WALL ROUND DUCTS AND FITTINGS

A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 3, "Round, Oval, and Flexible Duct," based on indicated static-pressure class unless otherwise indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. Lindab Inc.
    b. McGill AirFlow LLC.
    c. SEMCO Incorporated.
    d. Sheet Metal Connectors, Inc.
    e. Spiral Manufacturing Co., Inc.

B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-1, "Round Duct Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-2, "Round Duct Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

D. Tees and Laterals: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 SHEET METAL MATERIALS

A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.

1. Galvanized Coating Designation: G90.
2. Finishes for Surfaces Exposed to View: Mill phosphatized.

C. Stainless-Steel Sheets: Comply with ASTM A 480/A 480M, Type 304 or 316, as indicated in the "Duct Schedule" Article; cold rolled, annealed, sheet. Exposed surface finish shall be No. 2B, No. 2D, No. 3, or No. 4 as indicated in the "Duct Schedule" Article.

D. Aluminum Sheets: Comply with ASTM B 209 Alloy 3003, H14 temper; with mill finish for concealed ducts, and standard, one-side bright finish for duct surfaces exposed to view.

E. Reinforcement Shapes and Plates: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

1. Where black- and galvanized-steel shapes and plates are used to reinforce aluminum ducts, isolate the different metals with butyl rubber, neoprene, or EPDM gasket materials.

F. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.4 DUCT LINER

A. Flexible Elastomeric Noise Reducing Duct Liner: Preformed, cellular, closed-cell, sheet materials complying with ASTM C 534, Type II, Grade 1; and with NFPA 90A or NFPA 90B.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Armacell LLC, Coilflex.
    b. Aeroflex USA Inc
    c. Rubatex International, LLC

2. Surface-Burning Characteristics: Maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
3. Minimum thermal conductivity: .25 BTU-in/h-ft^2-F
4. Rated for 180 degree F max and -297 degree F min
5. Noncorrosive
6. Antimicrobial
7. Sound transmission rating: 25
8. Liner Adhesive: As recommended by insulation manufacturer and complying with NFPA 90A or NFPA 90B.

    a. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
    b. Adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

B. Shop Application of Duct Liner: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 7-11, "Flexible Duct Liner Installation."

1. Adhere a single layer of indicated thickness of duct liner with at least 90 percent adhesive coverage at liner contact surface area. Attaining indicated thickness with multiple layers of duct liner is prohibited.
2. Apply adhesive to transverse edges of liner facing upstream that do not receive metal nosing.
3. Butt transverse joints without gaps, and coat joint with adhesive.
4. Fold and compress liner in corners of rectangular ducts or cut and fit to ensure butted-edge overlapping.
5. Do not apply liner in rectangular ducts with longitudinal joints, except at corners of ducts, unless duct size and dimensions of standard liner make longitudinal joints necessary.
6. Apply adhesive coating on longitudinal seams in ducts.
7. Adhere to duct with adhesive and secure liner with mechanical fasteners 4 inches from

corners and at intervals not exceeding 12 inches transversely; at 3 inches from transverse joints and at intervals not exceeding 18 inches longitudinally.

8. Secure transversely oriented liner edges facing the airstream with metal nosings that have either channel or "Z" profiles or are integrally formed from duct wall.

2.5 SEALANT AND GASKETS

A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.

B. Water-Based Joint and Seam Sealant:

1. Application Method: Brush on.
2. Solids Content: Minimum 65 percent.
3. Shore A Hardness: Minimum 20.
4. Water resistant.
5. Mold and mildew resistant.
6. VOC: Maximum 75 g/L (less water).
7. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
8. Service: Indoor or outdoor.
9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.

C. Flanged Joint Sealant: Comply with ASTM C 920.

1. General: Single-component, acid-curing, silicone, elastomeric.
2. Type: S.
3. Grade: NS.
4. Class: 25.
5. Use: O.
6. For indoor applications, use sealant that has a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
7. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.

D. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.

E. Round Duct Joint O-Ring Seals:

1. Seal shall provide maximum leakage class of 3 cfm/100 sq. ft. at 1-inch wg and shall be rated for 10-inch wg static-pressure class, positive or negative.
2. EPDM O-ring to seal in concave bead in coupling or fitting spigot.
3. Double-lipped, EPDM O-ring seal, mechanically fastened to factory-fabricated couplings and fitting spigots.

2.6 HANGERS AND SUPPORTS

A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.

B. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."

C. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.

D. Trapeze and Riser Supports:

1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.

B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.

C. Install round ducts in maximum practical lengths.

D. Install ducts with fewest possible joints.

E. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.

F. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.

G. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.

H. Install ducts with a clearance of 1 inch, plus allowance for insulation thickness.

I. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures.

J. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to

view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches.

K. Where ducts pass through fire-rated interior partitions and exterior walls, install fire dampers. Comply with requirements in Division 23 Section "Air Duct Accessories" for fire and smoke dampers.

L. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."

3.2 INSTALLATION OF EXPOSED DUCTWORK

A. Protect ducts exposed in finished spaces from being dented, scratched, or damaged.

B. Trim duct sealants flush with metal. Create a smooth and uniform exposed bead. Do not use two-part tape sealing system.

C. Maintain consistency, symmetry, and uniformity in the arrangement and fabrication of fittings, hangers and supports, duct accessories, and air outlets.

D. Repair or replace damaged sections and finished work that does not comply with these requirements.

3.3 DUCT SEALING

A. Seal ducts to the following seal classes according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":

1. All ductwork: Seal class A

3.4 HANGER AND SUPPORT INSTALLATION

A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."

B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.

1. Where practical, install concrete inserts before placing concrete.
2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.
4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.
5. Do not use powder-actuated concrete fasteners for seismic restraints.

C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.

D. Hangers Exposed to View: Threaded rod and angle or channel supports.

E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at a maximum interval of 16 feet.

F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.5 CONNECTIONS

A. Make connections to equipment with flexible connectors complying with Division 23 Section "Air Duct Accessories."

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.6 PAINTING

A. Paint interior of metal ducts that are visible through registers and grilles and that do not have duct liner. Apply one coat of flat, black, latex paint over a compatible galvanized-steel primer. Paint materials and application requirements are specified in Division 09 painting Sections.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Leakage Tests:

1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
2. Test the following systems:

    a. Ducts with a Pressure Class Higher Than 2-Inch wg: Test representative duct sections no less than 25 percent of total installed duct area for each designated pressure class.

3. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
4. Test for leaks before applying external insulation.
5. Conduct tests at static pressures equal to maximum design pressure of system or section being tested. If static-pressure classes are not indicated, test system at maximum system design pressure. Do not pressurize systems above maximum design operating pressure.

6. Give fourteen days' advance notice for testing.

C. Duct System Cleanliness Tests:

1. Visually inspect duct system to ensure that no visible contaminants are present.

2. Test sections of metal duct system, chosen randomly by Owner, for cleanliness according to "Vacuum Test" in NADCA ACR, "Assessment, Cleaning and Restoration of HVAC Systems."

a. Acceptable Cleanliness Level: Net weight of debris collected on the filter media shall not exceed 0.75 mg/100 sq. cm.

D. Duct system will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

3.8 DUCT CLEANING

A. Clean new and existing duct system(s) before testing, adjusting, and balancing.

3.9 START UP

A. Air Balance: Comply with requirements in Division 23 Section "Testing, Adjusting, and Balancing for HVAC."

3.10 DUCT SCHEDULE

A. Fabricate ducts with galvanized sheet steel except as otherwise indicated and as follows:

B. Supply, Return, Exhaust, and Outside Air:

a. Pressure Class: Positive 3-inch wg; Negative 2- inch wg
b. Minimum SMACNA Seal Class: A.
c. SMACNA Leakage Class for Rectangular: 4.
d. SMACNA Leakage Class for Round: 2

2. Ducts within wet environments (Ductwork serving Decontamination areas, and showers)

a. Aluminum sheets

1) Exposed to view: bright finish
2) Concealed: Mill finish

b. Pressure Class: Positive or negative 3-inch wg.
c. Minimum SMACNA Seal Class: A.
d. SMACNA Leakage Class: 3.

C. Domestic clothes dryer and gear extractor ducts.

1. Exhaust ducts for domestic clothes dryers and gear extractors shall be constructed of galvanized metal and shall have a smooth interior finish. Sheet steel shall not be less than 0.0195 inches thick.
2. The exhaust duct shall be a minimum nominal size of 4 inches (102mm) in diameter.
3. The entire exhaust system shall be supported and secured in place.
4. The male end of the duct at overlapped duct joints shall extend in the direction of airflow.
5. Sheet metal screws or fasteners extending into the ductwork shall not be used.
6. Clothes dryer transition ducts used to connect the appliance to the exhaust duct system shall be limited to single lengths not to exceed 8 feet (2438 mm) and shall be listed and labeled for the application.
7. Transition ducts shall not be concealed within construction.

D. Domestic Kitchen Exhaust

1. Exhaust ducts for domestic kitchen hoods shall be constructed of galvanized metal and shall have a smooth interior finish.
2. The exhaust duct shall be a minimum nominal size of 6 inches (102mm) in diameter.
3. The entire exhaust system shall be supported and secured in place.
4. Flexible connections shall not be used.
5. The exhaust system shall be equipped with a backdraft damper.
6. The exhaust system shall be independent of all other exhaust systems.

E. Intermediate Reinforcement:

1. Galvanized-Steel Ducts: Galvanized steel or carbon steel coated with zinc-chromate primer.
2. Stainless-Steel Ducts:
    a. Exposed to Airstream: Match duct material.
    b. Not Exposed to Airstream: Galvanized.

F. Liner:

1. Air Ducts specifically identified with an “L” after the duct size on drawings:
    a. Flexible elastomeric noise reducing duct liner: 1-inches thick

G. Elbow Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
    a. Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
2. Round Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-4, "Round Duct Elbows."
    a. Minimum Radius-to-Diameter Ratio and Elbow Segments: Comply with

SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 3-1, "Mitered Elbows." Elbows with less than 90-degree change of direction have proportionately fewer segments.

1) Velocity up to 1500 fpm: 1.5 radius-to-diameter ratio and four segments for 90-degree elbow.

b. Round Elbows, 8 Inches and Smaller in Diameter: Stamped.
c. Round Elbows, 10 Inches and Larger in Diameter: 5 Gore, Welded.

H. Branch Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."

a. Rectangular Main to Rectangular Branch: 45-degree lateral or 90-degree with 45-degree entry.

2. Rectangular Main to Round Tap: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees." Saddle taps are permitted in existing duct.

a. 45-degree lateral or 90-degree with 45-degree entry.

END OF SECTION 233113

SECTION 23 33 00 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Manual volume dampers.
2. Control dampers.
3. Flange connectors.
4. Turning vanes.
5. Duct-mounted access doors.
6. Flexible connectors.
7. Duct accessory hardware

1.3 ACTION SUBMITTALS

A. Product data

B. Shop Drawings: For duct accessories. Include plans, elevations, sections, details and attachments to other work.

1. Detail duct accessories fabrication and installation in ducts and other construction. Include dimensions, weights, loads, and required clearances; and method of field assembly into duct systems and other construction. Include the following:

a. Special fittings.
b. Manual volume damper installations.
c. Control-damper installations.
d. Fire-damper damper installations, including sleeves; and duct-mounted access doors and remote damper operators.
e. Wiring Diagrams: For power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air duct accessories to include in operation and maintenance manuals

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Fusible Links: Furnish 1 for each damper requiring fusible links installed

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections

2.2 MATERIALS

A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.

1. Galvanized Coating Designation: G90.
2. Exposed-Surface Finish: Mill phosphatized.

B. Stainless-Steel Sheets: Comply with ASTM A 480/A 480M, Type 304, and having a No. 2 finish for concealed ducts and a No.3 finish for exposed ducts

C. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.

D. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches

2.3 MANUAL VOLUME DAMPERS

A. Standard, Steel, Manual Volume Dampers:

1. Manufacturers: provide products by one of the following:

a. Greenheck Fan Corporation
b. Nailor Industries Inc.
c. Ruskin Company.

2. Standard leakage rating, with linkage outside airstream.
3. Suitable for horizontal or vertical applications.

4. Frames:

    a. Frame: Hat-shaped, 16 gauge, 5 inch deep, galvanized sheet steel.
    b. Mitered and welded corners.
    c. Flanges for attaching to walls and flangeless frames for installing in ducts.

5. Blades:

    a. Single blade up to 12” high, multi blade over 12” high
    b. Parallel- or opposed-blade design.
    c. Stiffen damper blades for stability.
    d. Galvanized, V-blade, 16 gauge but not less than two gauges more than the duct gauge

6. Blade Axles: Galvanized steel, ½ inch diameter.
7. Bearings:

    a. Stainless-steel sleeve.
    b. Dampers in ducts with pressure classes of 2-inch wg or more and on all dampers over 12 inch diameter shall have continuous rod axles full length of damper blades and bearings at both ends of operating shaft.

8. Tie Bars and Brackets: Galvanized steel.
9. Include elevated platform for insulated duct mounting.
10. Damper handles:

    a. Cast alloy body and core
    b. Heavy stamped handle
    c. Locking
    d. Hex locking nut and acorn nut
    e. Basis of design: Duro Dyne, Specline or approved equal

2.4 FLANGE CONNECTORS

A. Interior

1. Description: roll-formed, factory-fabricated, slide-on transverse flange connectors, gaskets, and components.
2. Material: Galvanized steel.
3. Gage and Shape: Match connecting ductwork.

B. Exterior

1. Description: Add-on factory-fabricated, slide-on transverse flange connectors, gaskets, and components.
2. Material: PVC coated galvanized steel with integral sealant.
3. Gage and Shape: 20 Gage Roll-formed.
4. Gasket: 440 Butyl.
5. Cleat: PVC (polyvinyl chloride).

a. Corner Clips: Bolted, 16 Gage PVC coated

2.5 TURNING VANES

A. Manufactured Turning Vanes for Metal Ducts: Curved blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.

B. General Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figures 4-3, "Vanes and Vane Runners," and 4-4, "Vane Support in Elbows."

C. Vane Construction: Single Wall for ducts up to 36 inches wide and double wall for larger dimensions.

D. Vane Spacing: 1.5 inches.

E. Vane Radius: 2 inches.

2.6 DUCT-MOUNTED ACCESS DOORS

A. Duct-Mounted Access Doors: Fabricate access panels according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figures 7-2, "Duct Access Doors and Panels," and 7-3, "Access Doors - Round Duct."

1. Door:

a. Double wall, rectangular.
b. Galvanized sheet metal with insulation fill and thickness as indicated for duct pressure class.
c. Vision panel.
d. Hinges and Latches: 1-by-1-inch piano hinge and cam latches.
e. Fabricate doors airtight and suitable for duct pressure class.

2. Frame: Galvanized sheet steel, with bend-over tabs and foam gaskets.
3. Number of Hinges and Locks:

a. Access Doors up to 18 Inches Square: Two hinges and two sash locks.
b. Access Doors up to 24 by 48 Inches: Three hinges and two compression latches with outside and inside handles.
c. Access Doors Larger Than 24 by 48 Inches: Four hinges and two compression latches with outside and inside handles.

2.7 FLEXIBLE CONNECTORS

A. Materials: Flame-retardant or noncombustible fabrics.

B. Coatings and Adhesives: Comply with UL 181, Class 1.

C. Metal-Edged Connectors: Factory fabricated with a fabric strip 5-3/4 inches wide attached to 2 strips of 2-3/4-inch wide, 0.028-inch thick, galvanized sheet steel or 0.032-inch thick aluminum

sheets. Provide metal compatible with connected ducts.

D. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene.

1. Minimum Weight: 26 oz./sq. yd..
2. Tensile Strength: 480 lbf/inch in the warp and 360 lbf/inch in the filling.
3. Service Temperature: Minus 40 to plus 200 deg F.

2.8 DUCT ACCESSORY HARDWARE

A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.

B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts.

B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless-steel accessories in stainless-steel ducts, and aluminum accessories in aluminum ducts.

C. Install control dampers at outlet of exhaust fans or exhaust ducts as close as possible to exhaust fan unless otherwise indicated.

D. Provide volume dampers at points on supply, return, and exhaust systems where branches extend from larger ducts. Dampers shall be provided as necessary to achieve a NEBB certified air balance.

1. Install steel volume dampers in steel ducts.
2. Install stainless steel volume dampers in stainless steel ducts.

E. Set dampers to fully open position before testing, adjusting, and balancing.

F. Install test holes at fan inlets and outlets and elsewhere as indicated.

G. Install duct access doors on sides of ducts to allow for inspecting, adjusting, and maintaining accessories and equipment at the following locations:

1. On both sides of duct coils.
2. At outdoor-air intakes and mixed-air plenums.
3. At drain pans and seals.

4. Downstream from manual volume dampers, control dampers, backdraft dampers, and equipment.

5. Adjacent to and close enough to fire dampers, to reset or reinstall fusible links. Access doors for access to fire dampers having fusible links shall be pressure relief access doors and shall be outward operation for access doors installed upstream from dampers and inward operation for access doors installed downstream from dampers.
6. Upstream and downstream from turning vanes.
7. Control devices requiring inspection.
8. Elsewhere as indicated.

H. Install access doors with swing against duct static pressure.

I. Access Door Sizes:

1. One-Hand or Inspection Access: 8 by 5 inches.
2. Two-Hand Access: 12 by 6 inches.
3. Head and Hand Access: 18 by 10 inches.

J. Label access doors according to Division 23 Section "Identification for HVAC Piping and Equipment" to indicate the purpose of access door.

K. Install flexible connectors to connect ducts to equipment.

L. Connect diffusers and grilles to ducts directly or with maximum 36-inch lengths of flexible duct clamped in place with stainless steel band clamps. Maximum (1) 90 degree bend allowed.

M. Install duct test holes where required for testing and balancing purposes.

3.2 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Operate dampers to verify full range of movement.
2. Inspect locations of access doors and verify that purpose of access door can be performed.
3. Operate fire dampers to verify full range of movement and verify that proper heat-response device is installed.
4. Inspect turning vanes for proper and secure installation.
5. Verify all dampers are secured and handles can be correctly fastened to hold damper in place

END OF SECTION 233000

SECTION 23 34 23 - HVAC POWER VENTILATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Roof Downblast Centrifugal Exhaust Fans
2. Sidewall Upblast Centrifugal Exhaust Fans.

B. Related Sections:

1. Section 230010 “Common Motor Requirements for HVAC Equipment.”
2. Section 237200 “Roof Accessories.”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes for fans.
2. Rated capacities, operating characteristics, and furnished specialties and accessories.
3. Certified fan performance curves with system operating conditions indicated.
4. Certified fan sound-power ratings.
5. Motor ratings and electrical characteristics, plus motor and electrical accessories.
6. Material thickness and finishes, including color charts.
7. Dampers, including housings, linkages, and operators.
8. Prefabricated roof curbs.
9. Fan speed controllers.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.
4. Design Calculations: Calculate requirements for selecting vibration isolators

C. Delegated-Design Submittal: For unit hangars and supports indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Design Calculations: Calculate requirements for selecting vibration isolators and for designing vibration isolation bases.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Floor plans, reflected ceiling plans, and other details, or BIM model, drawn to scale, showing the items described in this Section and coordinated with all building trades.

B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For HVAC power ventilators to include in normal and emergency operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Belts: One set for each belt-driven unit.

PART 2 - PRODUCTS

2.1 DIRECT DRIVE ROOF DOWNBLAST CENTRIFUGAL EXHAUST FANS - GREENHECK MODEL G

A. General Description:

1. Downblast fan shall be for roof mounted applications
2. Performance capabilities up to 14,500 cubic feet per minute (cfm) and static pressure to 2.75 inches of water gauge
3. Fans are available in twenty sizes with nominal wheel diameters ranging from 8 inches through 30 inches (071 - 300 unit sizes)
4. Maximum continuous operating temperature is 180 Fahrenheit (82.2 Celsius)
5. Each fan shall bear a permanently affixed manufacture's engraved metal nameplate containing the model number and individual serial number.

B. Wheel:

1. Constructed of aluminum

2. Non-overloading, backward inclined centrifugal
3. Statically and dynamically balanced in accordance to AMCA Standard 204-05
4. The wheel cone and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency.

C. Motors:

1. Electronically Commutated Motor

   a. Motor enclosures: Open type
   b. Motor to be a DC electronic commutation type motor (ECM) specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors.
   c. Motors are permanently lubricated, heavy duty ball bearing type to match with the fan load and pre-wired to the specific voltage and phase.
   d. Internal motor circuitry to convert AC power supplied to the fan to DC power to operate the motor.
   e. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted at the motor or by a 0-10 VDC signal.
   f. Motor shall be a minimum of 85% efficient at all speeds.

D. Housing:

1. Motor cover, shroud, curb cap, and lower windband shall be constructed of heavy gauge aluminum
2. Shroud shall have an integral rolled bead for extra strength
3. Shroud shall be drawn from a disc and direct air downward
4. Lower windband shall have a formed edge for added strength
5. Motor cover shall be drawn from a disc
6. All housing components shall have final thicknesses equal to or greater then preformed thickness.
7. Curb cap shall have pre-punched mounting holes to ensure correct attachment
8. Rigid internal support structure
9. Leak proof

E. Housing Supports and Drive Frame:

1. Drive frame assemblies shall be constructed of heavy gauge steel and mounted on vibration isolators

F. Vibration Isolation:

1. Rubber isolators
2. Sized to match the weight of each fan

G. Disconnect Switches:

1. NEMA-1 rated
2. Positive electrical shut-off

3. Wired from fan motor to junction box installed within motor compartment

H. Options/Accessories:

1. Birdscreen:

a. Material Type: Galvanized
b. Protects fan discharge

2. Roof Curbs:

a. Provide wind rated roof curb in accordance with Section 237200.

3. Dampers:

a. Type: Motorized
b. Prevents outside air from entering back into the building when fan is off
c. Balanced for minimal resistance to flow
d. Galvanized frames with prepunched mounting holes

2.2 DIRECT DRIVE SIDEWALL UPBLAST CENTRIFUGAL EXHAUST FANS - GREENHECK MODEL CUE

A. General Description:

1. Discharge air directly away from the mounting surface
2. Upblast fan shall be for roof mounted applications for fan sizes 060-300
3. Wall mounted applications for fan sizes 060-200
   Performance capabilities up to 14,700 cubic feet per minute (cfm) and static pressure to 3 inches of water gauge
   Fans are available in twenty-two sizes with nominal wheel diameters ranging from 9 inches through 30 inches (060 - 300 unit sizes)
4. Maximum continuous operating temperature for fan sizes 098-300 is 400 Fahrenheit (204.4 Celsius) and for fan sizes 060-095 is 160 Fahrenheit (71.1 Celsius)
   Each fan shall bear a permanently affixed manufacture's engraved metal nameplate containing the model number and individual serial number.

B. Wheel:

1. Material type: aluminum
2. Non-overloading, backward inclined centrifugal
3. Statically and dynamically balanced in accordance to AMCA Standard 204-05
4. The wheel cone and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency.

C. Motors:

1. Electronically Commutated Motor

a. Motor enclosures: Open type

b. Motor to be a DC electronic commutation type motor (ECM) specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors.
c. Motors are permanently lubricated, heavy duty ball bearing type to match with the fan load and pre-wired to the specific voltage and phase.
d. Internal motor circuitry to convert AC power supplied to the fan to DC power to operate the motor
e. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted at the motor or by a 0-10 VDC signal.
f. Motor shall be a minimum of 85% efficient at all speeds.

D. Housing:

1. Constructed of heavy gauge aluminum includes exterior housing, curb cap, windband, and motor compartment housing. Galvanized material is not acceptable.
2. Housing shall have a rigid internal support structure. Windband to be one piece uniquely spun aluminum construction and maintain original material thickness throughout the housing.
3. Windband to include an integral rolled bead for strength.
4. Curb cap base to be fully welded to windband to ensure a leak proof construction. Tack welding, bolting, and caulking are not acceptable.
5. Curb cap to have integral deep spun inlet venturi and pre-punched mounting holes to ensure correct attachment to curb.
6. Drive frame assemblies shall be constructed of heavy gauge steel and mounted on vibration isolators.
7. Breather tube shall be 10 square inches in size for fresh air motor cooling, and designed to allow wiring to be run through it.

E. Motor Cover:

1. Constructed of aluminum

F. Vibration Isolation:

1. Double studded true isolators
2. No metal to metal contact
3. Sized to match the weight of each fan

G. Disconnect Switches:

1. NEMA-1 rated
2. Positive electrical shut-off
3. Wired from fan motor to junction box installed within motor compartment

H. Drain Trough:

1. Allows for one-point drainage of water, grease, and other residues

I. Options/Accessories:

1. Birdscreen:

    a. Construction of galvanized steel
    b. Protects fan discharge

2. Dampers:

    a. Type: Motorized
    b. Prevents outside air from entering back into the building when fan is off
    c. Balanced for minimal resistance to flow
    d. Galvanized frames with pre-punched mounting holes

3. Drain Connection:

    a. Constructed of aluminum
    b. Allows singe-point drainage of grease, water, or other residues

4. Finishes:

    a. Types: None

5. Wall Grille
6. Wall Bracket

    a. Galvanized, Under Sized 0.5 in

7. Hinge Kit:

    a. Aluminum hinges
    b. Allows the fan to tilt away for access to wheel and ductwork for inspection and cleaning

8. Hinge Base:

    a. Aluminum hinges
    b. Hinges and restraint cables are mounted to a base (sleeve)
    c. Allows the fan to tilt away for access to wheel and ductwork for inspection and cleaning

2.3 SOURCE QUALITY CONTROL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

B. AMCA Certification: Fans shall comply with AMCA 11 and bear the AMCA-Certified Ratings Seal.

C. Fan Sound Ratings: Comply with AMCA 311, and label fans with the AMCA-Certified Ratings Seal. Sound ratings shall comply with AMCA 301. The fans shall be tested according to AMCA 300.

D. Fan Performance Ratings: Comply with AMCA 211 and label fans with AMCA-Certified Rating Seal. The fans shall be tested for air performance - flow rate, fan pressure, power, fan efficiency, air density, speed of rotation, and fan efficiency - according to AMCA 210/ASHRAE 51.

E. Operating Limits: Classify according to AMCA 99.

F. UL Standards: Power ventilators shall comply with UL 705. Power ventilators for use for restaurant kitchen exhaust shall also comply with UL 762.

PART 3 - EXECUTION

3.1 INSTALLATION OF HVAC POWER VENTILATORS

A. Install power ventilators level and plumb.

B. Secure roof-mounted fans to roof curbs with zinc-plated hardware. See Section 077200 "Roof Accessories" for installation of roof curbs.

C. Install units with clearances for service and maintenance.

D. Label units according to requirements specified in Section 230553 "Identification for HVAC Piping and Equipment."

3.2 DUCTWORK CONNECTIONS

A. Drawings indicate general arrangement of ducts and duct accessories. Make final duct connections with flexible connectors. Flexible connectors are specified in Section 233300 "Air Duct Accessories."

3.3 ELECTRICAL CONNECTIONS

A. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."
2. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.4 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring according to Section 260523 "Control-Voltage Electrical Power Cables."

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a factory-authorized service representative.

E. Tests and Inspections:

1. Verify that shipping, blocking, and bracing are removed.
2. Verify that unit is secure on mountings and supporting devices and that connections to ducts and electrical components are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
3. Verify that there is adequate maintenance and access space.
4. Verify that cleaning and adjusting are complete.
5. Disconnect fan drive from motor, verify proper motor rotation direction, and verify fan wheel free rotation and smooth bearing operation. Reconnect fan drive system, align and adjust belts, and install belt guards.
6. Adjust belt tension.
7. Adjust damper linkages for proper damper operation.
8. Verify lubrication for bearings and other moving parts.
9. Verify that manual and automatic volume control and fire and smoke dampers in connected ductwork systems are in fully open position.
10. Disable automatic temperature-control operators, energize motor, and adjust fan to indicated rpm, and measure and record motor voltage and amperage.
11. Shut unit down and reconnect automatic temperature-control operators.
12. Remove and replace malfunctioning units and retest as specified above.

F. Test and adjust controls and safeties. Controls and equipment will be considered defective if they do not pass tests and inspections.

G. Prepare test and inspection reports.

3.6 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Adjust belt tension.

C. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing procedures.

D. Replace fan and motor pulleys as required to achieve design airflow.

E. Lubricate bearings.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain centrifugal fans.

END OF SECTION 233423

SECTION 23 72 00 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Roof curbs.
2. Equipment supports.

B. Related Requirements:

1. Section 233423 "HVAC Power Ventilators" for power roof-mounted ventilators.

1.3 COORDINATION

A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.

B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1.4 ACTION SUBMITTALS

A. Delegated Design: Design roof accessories and associated anchors including comprehensive engineering analysis signed and sealed by a qualified professional engineer, licensed in the project location state, responsible for their preparation. Wind pressures are to be determined by delegated design engineer based on site specific wind criteria indicated below. All building attachments to be coordinated with structural conditions.

1. Detail fabrication and assembly of rooftop unit and roof curb.
2. Wind Design Loads:

a. Basic wind speed: 120 MPH
b. Risk Category: IV
c. Exposure Category: C

1) Refer to structural drawing S002 for additional structural design data.

B. Product Data: For each type of roof accessory.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

B. Structural Performance: Equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

C. Detail mounting, securing, and flashing of roof curb to roof structure and unit to roof curb. Indicate coordinating requirements with roof membrane system

2.2 ROOF CURBS

A. Roof Curbs: Internally reinforced roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings, bearing continuously on roof structure, and capable of meeting performance requirements; with welded or mechanically fastened and sealed corner joints, straight sides and integrally formed deck-mounting flange at perimeter bottom.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Greenheck Fan Corporation.
b. Pate Company.
c. Thybar Corporation (Basis of Design).

B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.

C. Supported Load Capacity: Coordinate load capacity with information on Shop Drawings of equipment to be supported.

D. Material: Zinc-coated (galvanized) steel sheet, 18-gauge thick.

E. Construction:

1. Curb Profile: compatible with roofing system.
2. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.

3. Fabricate curbs to minimum height of 18 inches above roofing surface unless otherwise indicated.
4. Top Surface: Level top of curb, with roof slope accommodated by sloped deck-mounting flange.
5. Sloping Roofs: Where roof slope exceeds 1:48, fabricate curb with perimeter curb height tapered to accommodate roof slope so that top surface of perimeter curb is level. Equip unit with water diverter or cricket on side that obstructs water flow.
6. Insulation: Factory insulated with 1-1/2-inch-thick glass-fiber board insulation.
7. Liner: Same material as curb, of manufacturer's standard thickness and finish.
8. Nailer: Factory-installed wood nailer under top flange on side of curb, continuous around curb perimeter.
9. Wind Restraint Straps and Base Flange Attachment: Provide wind restraint straps, welded strap connectors, and base flange attachment to roof structure at perimeter of curb, of size and spacing required to meet wind uplift requirements.
10. Platform Cap: Where portion of roof curb is not covered by equipment, provide weathertight platform cap formed from 3/4-inch- thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
11. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as curb.

2.3 EQUIPMENT SUPPORTS

A. Equipment Supports: Rail-type metal equipment supports capable of supporting superimposed live and dead loads between structural supports, including equipment loads and other construction indicated on Drawings, spanning between structural supports; capable of meeting performance requirements; with welded or mechanically fastened and sealed corner joints, integral metal cant**,** and integrally formed structure-mounting flange at bottom.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Pate Company. (Basis of Design).
    b. Thybar Corporation.
    c. Custom Solution Roof and Metal Products

B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.

C. Supported Load Capacity: Coordinate load capacity with information on Shop Drawings of equipment to be supported.

D. Material: Zinc-coated (galvanized) steel sheet,14-gauge thick.

E. Construction:

1. Curb Profile: Profile as indicated on Drawings compatible with roofing system.
2. Insulation: Factory insulated with 1-1/2-inch-thick glass-fiber board insulation.
3. Liner: Same material as equipment support, of manufacturer's standard thickness and finish.

4. Nailer: Factory-installed continuous wood nailers 5-1/2 inches wide under top flange on side of curb, continuous around support perimeter.
5. Wind Restraint Straps and Base Flange Attachment: Provide wind restraint straps, welded strap connectors, and base flange attachment to roof structure at perimeter of curb of size and spacing required to meet wind uplift requirements.
6. Platform Cap: Where portion of equipment support is not covered by equipment, provide weathertight platform cap formed from 3/4-inch- thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
7. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as equipment support.
8. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
9. Fabricate equipment supports to minimum height of 12 inches above roofing surface unless otherwise indicated.
10. Sloping Roofs: Where roof slope exceeds 1:48, fabricate each support with height to accommodate roof slope so that tops of supports are level with each other. Equip supports with water diverters or crickets on sides that obstruct water flow.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

C. Verify dimensions of roof openings for roof accessories.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install roof accessories according to manufacturer's written instructions.

1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of underlayment and cover with manufacturer's recommended slip sheet.
3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof accessories for waterproof performance.

C. Roof Curb Installation: Install each roof curb so top surface is level.

3.3 REPAIR AND CLEANING

A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A780/A780M.

B. Clean exposed surfaces according to manufacturer's written instructions.

C. Clean off excess sealants.

D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 237200

SECTION 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. Section Includes:

1. Electrical equipment coordination and installation.
2. Common electrical installation requirements.

1.3 COORDINATION

A. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and conduit installed at required slope.
4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

PART 2 - PRODUCTS (*Not Used*)

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

A. Comply with NECA 1.

B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.

E. Right of Way: Give to piping systems installed at a required slope.

3.2 FIRESTOPPING

A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly. Firestopping materials must be approved for specific use.

B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. Fire-resistance-rated walls include fire walls, fire-barrier walls, smoke-barrier walls and fire partitions.

C. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

END OF SECTION 260500

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. This Section includes the following:

1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Field quality-control test reports.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. General Cable Corporation.
2. Senator Wire & Cable Company.

3. Southwire Company.

B. Copper Conductors: Comply with NEMA WC 70.

C. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN.

D. Two-hour Fire Rated: Comply with UL2196 Type RHW

2.2 CONNECTORS AND SPLICES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Hubbell Power Systems, Inc.
2. O-Z/Gedney; EGS Electrical Group LLC.
3. 3M; Electrical Products Division.

B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper. Stranded for all.

B. Branch Circuits: Copper. Stranded for all.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Exposed Feeders: Type THHN, THWN, single conductors in raceway.

B. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN-THWN, single conductors in raceway.

C. Exposed Branch Circuits, Including in Crawlspaces: Type THHN-THWN, single conductors in raceway.

D. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.

E. Feeders in conduit outdoors: Type XHHW

F. Fire Rate Cable: Type RHW

1. Use Cable for: Fire pump feeders (NEC 695), emergency feeders (NEC 700 and 708)

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.

B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway.

D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

E. Support cables according to Division 26 Section "Hangers and Supports for Electrical Systems."

F. Identify and color-code conductors and cables according to Division 26 Section "Identification for Electrical Systems."

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

B. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm).

3.5 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. Fire-resistance-rated walls include fire walls, fire-barrier walls, smoke-barrier walls and fire partitions.

C. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

3.6 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.

B. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.

C. Test Reports: Prepare a written report to record the following:

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

D. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION 260519

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. This Section includes methods and materials for grounding systems and equipment**.**

B. Section includes grounding and bonding systems and equipment, plus the following special applications:

1. Ground bonding common with lightning protection system.
2. Refer to Specification Section 270526 for Grounding requirements for Communication Equipment.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. As-Built Data: Plans showing dimensioned as-built locations of grounding features specified in "Field Quality Control" Article, including the following:

1. Test wells.
2. Ground rods.
3. Ground rings.
4. Grounding arrangements and connections for separately derived systems.

1.4 QUALITY ASSURANCE

A. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

2.2 CONNECTORS

A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.

2.3 GROUNDING ELECTRODES

Ground Rods: Copper-clad steel 3/4 inch diameter by10 feet in length.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install stranded conductors for all ground wires, unless otherwise indicated.

3.2 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:

1. Feeders and branch circuits.
2. Lighting circuits.
3. Receptacle circuits.
4. Single-phase motor and appliance branch circuits.
5. Three-phase motor and appliance branch circuits.

3.3 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

END OF SECTION 260526

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. This Section includes the following:

1. Hangers and supports for electrical equipment and systems.

1.3 DEFINITIONS

A. EMT: Electrical metallic tubing.

B. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.

1.5 SUBMITTALS

A. Product Data: For the following:

1. Steel slotted support systems.
2. Nonmetallic slotted support systems.

B. Welding certificates.

1.6 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allied Tube & Conduit.
b. Cooper B-Line, Inc.; a division of Cooper Industries.
c. ERICO International Corporation.
d. Thomas & Betts Corporation.
e. Unistrut; Tyco International, Ltd.

2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.

B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.

C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
2. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.

6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.

B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.

C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with single-bolt conduit clamps.

D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.

B. Raceway Support Methods: In addition to methods described in NECA 1, EMT**,** IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).

Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To New Concrete: Bolt to concrete inserts.

2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
3. To Existing Concrete: Expansion anchor fasteners.
4. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
5. To Light Steel: Sheet metal screws.
6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.

D. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

SECTION 26 05 33 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 DEFINITIONS

A. EMT: Electrical metallic tubing.

B. RGS: Rigid steel conduit.

C. FMC: Flexible metal conduit.

D. LFMC: Liquidtight flexible metal conduit.

E. LFNC: Liquidtight flexible nonmetallic conduit.

F. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

B. Seismic Qualification Certificates: For enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.

3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
4. Detailed description of conduit support devices and interconnections on which the certification is based and their installation requirements.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Alflex Inc.
2. Allied Tube & Conduit; a Tyco International Ltd. Co.
3. O-Z Gedney; a unit of General Signal.
4. Wheatland Tube Company.

B. Rigid Steel Conduit: ANSI C80.1.

C. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.

a. Comply with NEMA RN 1.
b. Coating Thickness: 0.040 inch (1 mm), minimum.

D. EMT: ANSI C80.3.

E. FMC: Zinc-coated steel.

F. LFMC: Flexible steel conduit with PVC jacket.

G. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed. Coordinate first subparagraph below with Drawings.

1. Fittings for EMT: Compression type.

2.2 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Erickson Electrical Equipment Company.
2. Hoffman.
3. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
4. O-Z/Gedney; a unit of General Signal.
5. RACO; a Hubbell Company.
6. Robroy Industries, Inc.; Enclosure Division.
7. Spring City Electrical Manufacturing Company.
8. Thomas & Betts Corporation.

B. Sheet and Device Boxes: NEMA OS 1.

C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

D. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

E. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, galvanized, cast iron with gasketed cover.

F. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

G. Cabinets:

1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Key latch to match panelboards.
4. Metal barriers to separate wiring of different systems and voltage.
5. Accessory feet where required for freestanding equipment.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:

1. Exposed Conduit: Rigid steel conduit, PVC coated rigid steel conduit in areas noted on the drawing.
2. Concealed Conduit, Aboveground: Rigid steel conduit.
3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFNC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Comply with the following indoor applications, unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: RGS, Use EMT in Office Areas.
2. Exposed, Not Subject to Severe Physical Damage: RGS, Use EMT in Office Areas.
3. Exposed and Subject to Severe Physical Damage: Rigid steel conduit.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: Rigid steel conduit.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, stainless steel in damp or wet locations.

C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
2. EMT Conduit: Use compression fittings, unless otherwise indicated.

E. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.

F. Do not install aluminum conduits.

3.2 INSTALLATION

A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.

B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

C. Complete raceway installation before starting conductor installation.

D. Support raceways as specified in Division 26 Section "Hangers and Supports for Electrical Systems."

E. Arrange stub-ups so curved portions of bends are not visible above the finished slab.

F. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.

G. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.

H. Raceways Embedded in Slabs:

1. Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.

2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
3. Change from ENT to rigid steel conduit, or EMT before rising above the floor.

I. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

J. Flexible Conduit Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for recessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.
2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.

K. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.

3.3 FIRESTOPPING

A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly. Firestopping materials must be approved for specific use.

B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. Fire-resistance-rated walls include fire walls, fire-barrier walls, smoke-barrier walls and fire partitions.

C. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

3.4 PROTECTION

A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Identification for conductors.
2. Equipment identification labels.

1.3 SUBMITTALS

A. Product Data: For each electrical identification product indicated.

1.4 QUALITY ASSURANCE

A. Comply with ANSI A13.1 and ANSI C2.

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.145.

1.5 COORDINATION

A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

C. Coordinate installation of identifying devices with location of access panels and doors.

D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 CONDUCTOR MATERIALS

A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.

B. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

2.2 EQUIPMENT IDENTIFICATION LABELS

A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a black background. Minimum letter height shall be 3/8 inch (10 mm).

PART 3 - EXECUTION

3.1 APPLICATION

A. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape. Identify each ungrounded conductor according to source and circuit number.

B. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

1. Labeling Instructions:

    a. Indoor Equipment: Engraved, laminated acrylic or melamine label.

2. Equipment to Be Labeled:

    a. Panelboards, electrical cabinets, and enclosures.
    b. Transformers.
    c. Disconnect switches.
    d. Push-button stations.

3.2 INSTALLATION

A. Verify identity of each item before installing identification products.

B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

C. Apply identification devices to surfaces that require finish after completing finish work.

D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.

E. Attach nonadhesive signs and plastic labels with screws and auxiliary hardware appropriate to the location and substrate.

F. Color-Coding for Phase and Voltage Level Identification, 600 V and Less: Use the colors listed below for ungrounded service, feeder, and branch-circuit conductors.

1. Colors for 208/120-V Circuits:

   a. Phase A: Black.
   b. Phase B: Red.
   c. Phase C: Blue.
   d. Neutral: White
   e. Ground: Green

2. Colors for 480/277-V Circuits:

   a. Phase A: Brown.
   b. Phase B: Orange.
   c. Phase C: Yellow.
   d. Neutral: White
   e. Ground: Green

3. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.

END OF SECTION 260553

SECTION 26 24 16 – PANELBOARDS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. Section Includes:

1. Lighting and appliance branch-circuit panelboards.

1.3 SUBMITTALS

A. Product Data: For each type of panelboard, switching and overcurrent protective device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types and details for types other than NEMA 250, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Short-circuit current rating of panelboards and overcurrent protective devices.
5. Include evidence of NRTL listing for series rating of installed devices.
6. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
7. Include wiring diagrams for power, signal, and control wiring.
8. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device.

C. Qualification Data: For qualified testing agency.

D. Field Quality-Control Reports:

1. Test procedures used.

2. Test results that comply with requirements.
3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

E. Panelboard Schedules: For installation in panelboards. Submit final versions after load balancing.

F. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Comply with NEMA PB 1.

D. Comply with NFPA 70.

1.5 COORDINATION

A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.6 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Keys: Two spares for each type of panelboard cabinet lock.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PANELBOARDS

A. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces.

B. Enclosures: Flush- and surface-mounted cabinets.

1. Rated for environmental conditions at installed location.

a. Indoor Dry and Clean Locations: NEMA 250, Type 1.

2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
3. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
4. Finishes:

a. Panels and Trim: galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
b. Back Boxes: Galvanized steel.

5. Directory Card: Inside panelboard door, mounted in metal frame with transparent protective cover.

C. Incoming Mains Location: Top and bottom.

D. Phase, Neutral, and Ground Buses:

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

E. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Main and Neutral Lugs: Compression type.
3. Ground Lugs and Bus-Configured Terminators: Compression type.

F. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

G. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals.

2.2 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
3. Square D; a brand of Schneider Electric.

B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.

C. Mains: Circuit breaker as shown on the plans.

D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.

E. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

2.3 DISTRIBUTION PANELBOARDS

A. Manufacturers: Subject to compliance with requirements, provide products by on the following:

1. Eaton.
2. ABB.
3. Siemens.
4. Square D.

B. Panelboard Interior:

1. Shall be rated 208Y/120VAC or 480Y/277VAC maximum. Continuous main current ratings as indicated on associated drawings not to exceed 1200 amperes maximum main lugs or main circuit breaker. Panelboard bus current ratings shall be determined by heat-rise tests conducted in accordance with UL 67.
2. Provide UL Listed short circuit current ratings (SCCR) as indicated on the associated drawings not to exceed the lowest interrupting capacity rating of any circuit breaker installed with a maximum of 200,000 RMS symmetrical amperes. Main lug and main breaker panelboards shall be suitable for use as Service Equipment when application requirements comply with UL 67 and NFPA70 National Electric Code.
3. The panelboard interior shall have three flat bus bars stacked and aligned vertically with glass reinforced polyester insulators laminated between phases. The molded polyester insulators shall support and provide phase isolation to the entire length of bus.
4. The bussing shall be fully rated with sequentially phased branch distribution. Panelboard bussing rated 100 through 600 amperes shall be plated copper. Bussing rated 800 amperes and above shall be plated copper. Bus bar plating shall run the entire length of the bus bar. The entire interleaved assembly shall be contained between two (2) U-shaped steel channels, permanently secured to a galvanized steel-mounting pan by fasteners.
5. Interior trim shall be of dead-front construction to shield user from all energized parts. Main circuit breaker and main lug interiors shall be field convertible for top or bottom incoming feed.
6. A solidly bonded copper equipment ground bar shall be provided.
7. Solid neutral shall be equipped with a full capacity bonding strap for service entrance applications. UL Listed panelboards with 200% rated solid neutrals shall have plated copper neutral bus for non-linear load applications. Gutter-mounted neutral will not be acceptable.

8. Group mounted circuit breakers through 1200A.

    a. Circuit breaker(s) shall be group mounted with plug-on electrical connection, bolted to common pan or rail assembly.
    b. The interior shall have three flat bus bars stacked and aligned vertically with glass reinforced polyester insulators laminated between phases. The molded polyester insulators shall support and provide phase isolation to the entire length of bus.
    c. Circuit breakers equipped with line terminal jaws shall not require additional external mounting hardware. Circuit breakers shall be held in mounted position by a self-contained bracket secured to the mounting pan by fasteners. Circuit breakers of different frame sizes shall be capable of being mounted across from each other.
    d. Line-side circuit breaker connections are to be jaw type.
    e. All unused spaces provided, unless otherwise specified, shall be fully equipped for future devices, including all appropriate breaker connectors and mounting hardware.

9. Molded Case Circuit Breaker Characteristics – General

    a. Circuit breakers shall be I-LINE or equivalent from associated manufacturer - up to 1200 Amp maximum construction with factory installed mechanical lugs. All circuit breakers shall be UL Listed to accept field installable/removable mechanical type lugs. All lugs shall be UL Listed to accept solid (not larger than #8 AWG) and/or stranded copper and aluminum conductors. Lugs shall be suitable for 90° C rated wire, sized according to the 75° C temperature rating in the National Electrical Code.
    b. All circuit breakers with permanent trip units shall be UL Listed for reverse connection without restrictive line and load markings and be suitable for mounting in any position.

10. Surge Protective Device

    a. Surge protective devices shall be electrically connected to each phase bus of the panelboard and should be installed close to the main incoming lugs or circuit breaker.

C. Panelboard Enclosures

1. Type 1 Boxes

    a. Boxes shall be hot zinc dipped galvanized steel constructed in accordance with UL 50 requirements. Unpainted galvannealed steel is not acceptable.
    b. Boxes shall have removable blank end walls and interior mounting studs. Interior support bracket shall be provided for ease of interior installation.
    c. Standard enclosure widths shall be as required but manufacturer standards size.

2. Type 1 Trim Fronts

    a. Trim front steel shall meet strength and rigidity requirements per UL 50 standards. Shall have an ANSI 49 medium gray enamel electrodeposited over cleaned phosphatized steel.

b. Trim front shall be hinged 1-piece with door available in surface mount. Trim front door shall have rounded corners and edges free of burrs. A clear plastic directory cardholder shall be mounted on the inside of the door.
c. Locks shall be cylindrical tumbler type with larger enclosures requiring sliding vault locks with 3-point latching. All lock assemblies shall be keyed alike. One (1) key shall be provided with each lock.

3. Type 3R, 5, and 12

a. Enclosures shall be constructed in accordance with UL 50 requirements. Enclosures shall be painted with ANSI 49 gray enamel electrodeposited over cleaned phosphatized steel.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Receive, inspect, handle, and store panelboards according to NECA 407 NEMA PB 1.1.

B. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.

C. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install panelboards and accessories according to NECA 407 NEMA PB 1.1.

B. Mount top of trim 90 inches above finished floor unless otherwise indicated.

C. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

D. Install overcurrent protective devices and controllers not already factory installed.

E. Install filler plates in unused spaces.

F. Comply with NECA 1.

3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with Division 26 Section "Identification for Electrical Systems."

B. Create a directory to indicate installed circuit loads after balancing panelboard loads. Use a computer or typewriter to create directory; handwritten directories are not acceptable.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

A. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

B. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

C. Panelboards will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

A. Adjust moving parts and operable component to function smoothly, and lubricate as recommended by manufacturer.

B. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes.

1. Measure as directed during period of normal system loading.
2. Perform load-balancing circuit changes outside normal occupancy/working schedule of the facility and at time directed. Avoid disrupting critical 24-hour services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
3. After circuit changes, recheck loads during normal load period. Record all load readings before and after changes and submit test records.
4. Tolerance: Difference exceeding 20 percent between phase loads, within a panelboard, is not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

END OF SECTION 262416

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. This Section includes the following:

1. Receptacles, receptacles with integral GFCI, and associated device plates.
2. Snap switches.
3. Weatherproof covers.

1.3 DEFINITIONS

A. EMI: Electromagnetic interference.

B. GFCI: Ground-fault circuit interrupter.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Leviton Mfg. Company Inc. (Leviton).
4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.2 STRAIGHT BLADE RECEPTACLES

A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498. Ground strap is to be brass.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Cooper; 5351 (single), 5352 (duplex).
b. Hubbell; HBL5351 (single), CR5352 (duplex).
c. Leviton; 5891 (single), 5352 (duplex).
d. Pass & Seymour; 5381 (single), 5352 (duplex).

2.3 GFCI RECEPTACLES

A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped. Must have the capability to self test every two minutes.

B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:

a. Cooper; GF20.
b. Pass & Seymour; 2084.
c. Hubbell; GFR5352ST

2.4 SNAP SWITCHES

A. Comply with NEMA WD 1 and UL 20.

B. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:

a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).
b. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
c. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).
d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

2.5 WALL PLATES

A. Single and combination types to match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: Smooth, high-impact thermoplastic 0.035-inch- (1-mm-) thick.
3. Material for Unfinished Spaces: Stainless steel smooth finish type 302.
4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."

B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant**,** die-cast aluminum with lockable cover.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

B. Coordination with Other Trades:

1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

C. Conductors:

1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.

3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.

D. Device Installation:

1. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
2. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
3. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
4. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
5. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
6. Tighten unused terminal screws on the device.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the left.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

END OF SECTION 262726

SECTION 26 32 13.14 - DIESEL ENGINE GENERATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes packaged engine generators used to supply non-emergency power, with the following features:

1. Diesel engine.
2. Diesel fuel-oil system.
3. Control and monitoring.
4. Generator overcurrent and fault protection.
5. Generator, exciter, and voltage regulator.
6. Outdoor engine generator enclosure.
7. Vibration isolation devices.
8. Finishes.

1.3 DEFINITIONS

A. Operational Bandwidth: The total variation from the lowest to highest value of a parameter over the range of conditions indicated, expressed as a percentage of the nominal value of the parameter.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
2. Include thermal damage curve for generator.
3. Include time-current characteristic curves for generator protective device.
4. Include fuel consumption in gallons per hour (liters per hour) at 0.8 power factor at 0.5, 0.75, and 1.0 times generator capacity.
5. Include generator efficiency at 0.8 power factor at 0.5, 0.75, and 1.0 times generator capacity.
6. Include airflow requirements for cooling and combustion air in cubic feet per minute (cubic meters per minute) at 0.8 power factor, with air-supply temperature of 95, 80, 70,

and 50 deg F (35, 27, 21, and 10 deg C). Provide Drawings indicating requirements and limitations for location of air intake and exhausts.

7. Include generator characteristics, including, but not limited to, kilowatt rating, efficiency, reactances, and short-circuit current capability.

B. Shop Drawings:

1. Include plans and elevations for engine generator and other components specified. Indicate access requirements affected by height of subbase fuel tank.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Identify fluid drain ports and clearance requirements for proper fluid drain.
4. Design calculations for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.
5. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include base weights.
6. Include diagrams for power, signal, and control wiring. Complete schematic, wiring, and interconnection diagrams showing terminal markings for engine generators and functional relationship between all electrical components.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and testing agency.

B. Source Quality-Control Reports: Including, but not limited to, the following:

1. Certified summary of prototype-unit test report.
2. Certified Test Reports: For components and accessories that are equivalent, but not identical, to those tested on prototype unit.
3. Report of factory test on units to be shipped for this Project, showing evidence of compliance with specified requirements.
4. Report of sound generation.
5. Report of exhaust emissions showing compliance with applicable regulations.

C. Field quality-control reports.

D. Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For packaged engine generators to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. List of tools and replacement items recommended to be stored at Project for ready access. Include part and drawing numbers, current unit prices, and source of supply.
b. Operating instructions laminated and mounted adjacent to generator location.
c. Training plan.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Fuses: One for every 10 of each type and rating, but no fewer than one of each.
2. Indicator Lamps: Two for every six of each type used, but no fewer than two of each.
3. Filters: One set each of lubricating oil, fuel, and combustion-air filters.
4. Tools: Each tool listed by part number in operations and maintenance manual.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Testing Agency Qualifications: Accredited by NETA.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.9 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of packaged engine generators and associated auxiliary components that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:
1. Kohler
2. Caterpiller
3. Generac
4. Or approved equal.

B. Source Limitations: Obtain packaged engine generators and auxiliary components from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. B11 Compliance: Comply with B11.19.

B. NFPA Compliance:

1. Comply with NFPA 37.
2. Comply with NFPA 70.

C. UL Compliance: Comply with UL 2200.

D. Engine Exhaust Emissions: Comply with EPA Tier 4 requirements and applicable state and local government requirements.

E. Noise Emission: Comply with applicable state and local government requirements for maximum noise level at adjacent property boundaries due to sound emitted by engine generator including engine, engine exhaust, engine cooling-air intake and discharge, and other components of installation.

F. Environmental Conditions: Engine generator system shall withstand the following environmental conditions without mechanical or electrical damage or degradation of performance capability:

1. Ambient Temperature: 5 to 104 deg F (Minus 15 to plus 40 deg C).
2. Altitude: Sea level to [1000 feet (300 m)].

2.3 ENGINE GENERATOR ASSEMBLY DESCRIPTION

A. Factory-assembled and -tested, water-cooled engine, with brushless generator and accessories.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

C. Power Rating: Industrial.

D. Overload Capacity: 110 percent of service load for 1 hour in 12 consecutive hours.

E. Service Load: 100 kVA.

F. Power Factor: 0.8, lagging.

G. Frequency: 60 Hz.

H. Voltage: 480-V ac.

I. Phase: Three-phase, four wire, wye.

J. Governor: Adjustable isochronous, with speed sensing.

K. Mounting Frame: Structural steel framework to maintain alignment of mounted components without depending on concrete foundation. Provide lifting attachments sized and spaced to prevent deflection of base during lifting and moving.

L. Capacities and Characteristics:

1. Power Output Ratings: Nominal ratings as indicated excluding power required for the continued and repeated operation of the unit and auxiliaries, with capacity as required to operate as a unit as evidenced by records of prototype testing.
2. Nameplates: For each major system component to identify manufacturer's name and address, and model and serial number of component.

M. Engine Generator Performance:

1. Steady-State Voltage Operational Bandwidth: 3 percent of rated output voltage from no load to full load.
2. Transient Voltage Performance: Not more than 20 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within three seconds.
3. Steady-State Frequency Operational Bandwidth: 0.5 percent of rated frequency from no load to full load.
4. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
5. Transient Frequency Performance: Less than 5 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within five seconds.
6. Output Waveform: At no load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for single harmonics. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50 percent.
7. Sustained Short-Circuit Current: For a three-phase, bolted short circuit at system output terminals, system shall supply a minimum of 250 percent of rated full-load current for not less than 10 seconds and then clear the fault automatically, without damage to generator system components.
8. Start Time: 10 seconds.

2.4 DIESEL ENGINE

A. Fuel: ASTM D975, diesel fuel oil, Grade 2-D S15.

B. Rated Engine Speed: 1800 rpm.

C. Lubrication System: Engine or skid-mounted.

1. Filter and Strainer: Rated to remove 90 percent of particles 5 micrometers and smaller while passing full flow.
2. Thermostatic Control Valve: Control flow in system to maintain optimum oil temperature. Unit shall be capable of full flow and is designed to be fail-safe.

3. Crankcase Drain: Arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools, or appliances.

D. Cooling System: Closed loop, liquid cooled, with radiator factory mounted on engine generator set mounting frame and integral engine-driven coolant pump.

1. Coolant: Solution of 50 percent ethylene-glycol-based antifreeze and 50 percent water, with anticorrosion additives as recommended by engine manufacturer.
2. Size of Radiator: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.
3. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by engine manufacturer.
4. Coolant Hose: Flexible assembly with inside surface of nonporous rubber and outer covering of aging-, UV-, and abrasion-resistant fabric.

    a. Rating: 50-psig (345-kPa) maximum working pressure with coolant at 180 deg F (82 deg C), and noncollapsible under vacuum.
    b. End Fittings: Flanges or steel pipe nipples with clamps to suit piping and equipment connections.

E. Muffler/Silencer: Commercial type, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements.

1. Minimum sound attenuation of 12 dB at 500 Hz.
2. Sound level measured at a distance of 25 feet (8 m) from exhaust discharge after installation is complete shall be 90 dBA or less.

F. Air-Intake Filter:Heavy-duty, engine-mounted air cleaner with replaceable dry-filter element and "blocked filter" indicator.

G. Starting System: 12-V electric, with negative ground.

1. Components: Sized so they are not damaged during a full engine-cranking cycle with ambient temperature at maximum specified in "Performance Requirements" Article.
2. Cranking Motor: Heavy-duty unit that automatically engages and releases from engine flywheel without binding.
3. Cranking Cycle: 60 seconds.
4. Battery: Lead acid, with capacity within ambient temperature range specified in "Performance Requirements" Article to provide specified cranking cycle at least twice without recharging.
5. Battery Cable: Size as recommended by engine manufacturer for cable length indicated. Include required interconnecting conductors and connection accessories.
6. Battery Stand: Factory-fabricated, two-tier metal with acid-resistant finish designed to hold the quantity of battery cells required and to maintain the arrangement to minimize lengths of battery interconnections.
7. Battery-Charging Alternator: Factory mounted on engine with solid-state voltage regulation and 35-A minimum continuous rating.

8. Battery Charger: Current-limiting, automatic-equalizing, and float-charging type designed for lead-acid batteries. Unit shall comply with UL 1236 and include the following features:

    a. Operation: Equalizing-charging rate of 10 A shall be initiated automatically after battery has lost charge until an adjustable equalizing voltage is achieved at battery terminals. Unit shall then be automatically switched to a lower float-charging mode and shall continue to operate in that mode until battery is discharged again.
    b. Automatic Temperature Compensation: Adjust float and equalize voltages for variations in ambient temperature from minus 40 to 140 deg F (minus 40 to plus 60 deg C) to prevent overcharging at high temperatures and undercharging at low temperatures.
    c. Automatic Voltage Regulation: Maintain constant output voltage regardless of input voltage variations up to plus or minus 10 percent.
    d. Ammeter and Voltmeter: Flush mounted in door. Meters shall indicate charging rates.
    e. Enclosure and Mounting: NEMA 250, Type 1, wall-mounted cabinet.

2.5 DIESEL FUEL-OIL SYSTEM

A. Comply with NFPA 30.

B. Piping: Fuel-oil piping shall be Schedule 40 black steel, complying with requirements in Section 231113 "Facility Fuel-Oil Piping." Cast iron, aluminum, copper, and galvanized steel shall not be used in the fuel-oil system.

C. Main Fuel Pump: Mounted on engine to provide primary fuel flow under starting and load conditions.

D. Fuel Filtering: Remove water and contaminants larger than 1 micron.

E. Relief-Bypass Valve: Automatically regulates pressure in fuel line and returns excess fuel to source.

F. Subbase-Mounted, Double-Wall, Fuel-Oil Tank: Factory installed and piped, complying with UL 142 fuel-oil tank. Features include the following:

1. Tank level indicator.
2. Fuel-Tank Capacity: Minimum 133 percent of total fuel required for planned operation plus fuel for periodic maintenance operations between fuel refills. (minimum of 12 hours run time at 100%)
3. Leak detection in interstitial space.
4. Vandal-resistant fill cap.
5. Containment Provisions: Comply with requirements of authorities having jurisdiction.

2.6 CONTROL AND MONITORING

A. Automatic Starting System Sequence of Operation: When mode-selector switch on the control and monitoring panel is in the automatic position, remote-control contacts in one or more separate automatic transfer switches initiate starting and stopping of engine generator. When mode-selector switch is switched to the on position, engine generator starts. The off position of same switch initiates engine generator shutdown. When engine generator is running, specified system or equipment failures or derangements automatically shut down engine generator and initiate alarms.

B. Provide minimum run time control set for 15 minutes with override only by operation of a remote emergency-stop switch.

C. Comply with UL 508A.

D. Configuration: Operating and safety indications, protective devices, basic system controls, and engine gages shall be grouped in a common control and monitoring panel mounted on the engine generator. Mounting method shall isolate the control panel from engine generator vibration. Panel shall be powered from the engine generator battery.

1. Wall-Mounting Cabinet Construction: Rigid, self-supporting steel unit complying with NEMA ICS 6.

E. Control and Monitoring Panel:

1. Digital engine generator controller with integrated LCD display, controls, and microprocessor, capable of local and remote control, monitoring, and programming, with battery backup.
2. Instruments: Located on the control and monitoring panel and viewable during operation.

    a. Engine lubricating-oil pressure gage.
    b. Engine-coolant temperature gage.
    c. DC voltmeter (alternator battery charging).
    d. Running-time meter.
    e. AC voltmeter, for each phase.
    f. AC ammeter, for each phase.
    g. AC frequency meter.
    h. Generator-voltage adjusting rheostat.

3. Controls and Protective Devices: Controls, shutdown devices, and common alarm indication, including the following:

    a. Cranking control equipment.
    b. Run-Off-Auto switch.
    c. Control switch not in automatic position alarm.
    d. Overcrank alarm.
    e. Overcrank shutdown device.
    f. Low-water temperature alarm.
    g. High engine temperature pre-alarm.
    h. High engine temperature.

i. High engine temperature shutdown device.
j. Overspeed alarm.
k. Overspeed shutdown device.
l. Low fuel main tank.

1) Low-fuel-level alarm shall be initiated when the level falls below that required for operation for duration required in "Fuel Tank Capacity" Subparagraph in "Diesel Fuel-Oil System" Article.

m. Coolant low-level alarm.
n. Coolant low-level shutdown device.
o. Coolant high-temperature prealarm.
p. Coolant high-temperature alarm.
q. Coolant low-temperature alarm.
r. Coolant high-temperature shutdown device.
s. Battery high-voltage alarm.
t. Low cranking voltage alarm.
u. Battery-charger malfunction alarm.
v. Battery low-voltage alarm.
w. Lamp test.
x. Contacts for local and remote common alarm.
y. Low-starting air pressure alarm.
z. Low-starting hydraulic pressure alarm.
aa. Remote manual stop shutdown device.
bb. Air shutdown damper alarm when used.
cc. Air shutdown damper shutdown device when used.
dd. Hours of operation.
ee. Engine generator metering, including voltage, current, hertz, kilowatt, kilovolt ampere, and power factor.

F. Supporting Items: Include sensors, transducers, terminals, relays, and other devices and include wiring required to support specified items. Locate sensors and other supporting items on engine or generator unless otherwise indicated.

G. Remote Emergency-Stop Switch: Flush; wall mounted unless otherwise indicated; and labeled. Push button shall be protected from accidental operation.

2.7 GENERATOR OVERCURRENT AND FAULT PROTECTION

A. Overcurrent protective devices shall be coordinated to optimize selective tripping when a short circuit occurs.

B. Generator Circuit Breaker: Molded-case, thermal-magnetic type; 100 percent rated; complying with UL 489.

1. Tripping Characteristic: Designed specifically for generator protection.
2. Trip Rating: Matched to generator output rating.
3. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.

4. Mounting: Adjacent to, or integrated with, control and monitoring panel.

C. Generator Protector: Microprocessor-based unit shall continuously monitor current level in each phase of generator output, integrate generator heating effect over time, and predict when thermal damage of alternator will occur. When signaled by generator protector or other engine generator protective devices, a shunt-trip device in the generator disconnect switch shall open the switch to disconnect the generator from load circuits. Protector performs the following functions:

1. Initiates a generator overload alarm when generator has operated at an overload equivalent to 110 percent of full-rated load for 60 seconds. Indication for this alarm is integrated with other engine generator malfunction alarms..
2. Under single- or three-phase fault conditions, regulates generator to 300 percent of rated full-load current for up to 10 seconds.
3. As overcurrent heating effect on the generator approaches the thermal damage point of the unit, protector switches the excitation system off, opens the generator disconnect device, and shuts down the engine generator.
4. Senses clearing of a fault by other overcurrent devices and controls recovery of rated voltage to avoid overshoot.

2.8 GENERATOR, EXCITER, AND VOLTAGE REGULATOR

A. Comply with NEMA MG 1.

B. Drive: Generator shaft shall be directly connected to engine shaft. Exciter shall be rotated integrally with generator rotor.

C. Electrical Insulation: Class H.

D. Stator-Winding Leads: Brought out to terminal box to permit future reconnection for other voltages if required. Provide six-lead alternator.

E. Range: Provide limited range of output voltage by adjusting the excitation level.

F. Construction shall prevent mechanical, electrical, and thermal damage due to vibration, overspeed up to 125 percent of rating, and heat during operation at 110 percent of rated capacity.

G. Enclosure: Dripproof.

H. Instrument Transformers: Mounted within generator enclosure.

I. Voltage Regulator: Solid-state type, separate from exciter, providing performance as specified.

1. Adjusting Rheostat on Control and Monitoring Panel: Provide plus or minus 5 percent adjustment of output-voltage operating band.
2. Maintain voltage within 20 percent on one step, full load.
3. Provide anti-hunt provision to stabilize voltage.

4. Maintain frequency within 10 percent and stabilize at rated frequency within [2] [5] seconds.

2.9 OUTDOOR ENGINE GENERATOR ENCLOSURE

A. Description: Vandal-resistant, sound-attenuating, weatherproof steel housing; wind resistant up to 100 mph (160 km/h). Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Panels shall be removable by one person without tools. Instruments and control shall be mounted within enclosure.

1. Sound Attenuation Level: II

B. Structural Design and Anchorage: Comply with ASCE/SEI 7 for wind loads up to 100 mph (160 km/h).

C. Hinged Doors: With padlocking provisions.

D. Space Heater: Thermostatically controlled and sized to prevent condensation.

E. Lighting: Provide weather-resistant LED lighting with 30 fc (330 lx) average maintained.

F. Thermal Insulation: Manufacturer's standard materials and thickness selected in coordination with space heater to maintain winter interior temperature within operating limits required by engine generator components.

G. Muffler Location: Within enclosure.

H. Engine-Cooling Airflow through Enclosure: Maintain temperature rise of system components within required limits when unit operates at 110 percent of rated load for two hours with ambient temperature at top of range specified in system service conditions.

1. Louvers: Fixed-engine, cooling-air inlet and discharge. Stormproof and drainable louvers prevent entry of rain and snow.
2. Automatic Dampers: At engine cooling-air inlet and discharge. Dampers shall be closed to reduce enclosure heat loss in cold weather when unit is not operating.

I. Interior Lights with Switch: Factory-wired, vaporproof luminaires within housing; arranged to illuminate controls and accessible interior. Arrange for external electrical connection.

1. AC lighting system and connection point for operation when remote source is available.

J. Convenience Outlets: Factory-wired, GFCI. Arrange for external electrical connection.

2.10 VIBRATION ISOLATION DEVICES

A. Elastomeric Isolator Pads: Oil- and water-resistant elastomer or natural rubber, arranged in single or multiple layers, molded with a nonslip pattern and galvanized-steel baseplates of

sufficient stiffness for uniform loading over pad area, and factory cut to sizes that match requirements of supported equipment.

1. Material: Standard neoprene separated by steel shims.
2. Shore A Scale Durometer Rating: 50.
3. Minimum Deflection: 1 inch (25 mm).

B. Restrained Spring Isolators: Freestanding, steel, open-spring isolators with seismic restraint.

1. Housing: Steel with resilient vertical-limit stops to prevent spring extension due to wind loads or if weight is removed; factory-drilled baseplate bonded to 1/4-inch- (6-mm-) thick, elastomeric isolator pad attached to baseplate underside; and adjustable equipment-mounting and -leveling bolt that acts as blocking during installation.
2. Outside Spring Diameter: Not less than 80 percent of compressed height of the spring at rated load.
3. Minimum Additional Travel: 50 percent of required deflection at rated load.
4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
6. Minimum Deflection: [1 inch (25 mm)] .

C. Comply with requirements in Section 232116 "Hydronic Piping Specialties" for vibration isolation and flexible connector materials for steel piping.

D. Comply with requirements in Section 233113 "Metal Ducts" for vibration isolation and flexible connector materials for exhaust shroud and ductwork.

E. Vibration isolation devices shall not be used to accommodate misalignments or to make bends.

2.11 FINISHES

A. Indoor and Outdoor Enclosures and Components: Manufacturer's standard finish over corrosion-resistant pretreatment and compatible primer.

2.12 SOURCE QUALITY CONTROL

A. Prototype Testing: Factory test engine generator using same engine model, constructed of identical or equivalent components and equipped with identical or equivalent accessories.

1. Tests: Comply with IEEE 115.

B. Project-Specific Equipment Tests: Before shipment, factory test engine generator and other system components and accessories manufactured specifically for this Project. Perform tests at rated load and power factor. Include the following tests:

1. Test components and accessories furnished with installed unit that are not identical to those on tested prototype to demonstrate compatibility and reliability.
2. Test generator, exciter, and voltage regulator as a unit.

3. Full load run.
4. Maximum power.
5. Voltage regulation.
6. Transient and steady-state governing.
7. Single-step load pickup.
8. Safety shutdown.
9. Report factory test results within 10 days of completion of test.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, equipment bases, and conditions, with Installer present, for compliance with requirements for installation and other conditions affecting packaged engine generator performance.

B. Examine roughing-in for piping systems and electrical connections. Verify actual locations of connections before packaged engine generator installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Notify Owner no fewer than two working days in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without Owner's written permission.

3.3 INSTALLATION

A. Comply with NECA 1 and NECA 404.

B. Comply with packaged engine generator manufacturers' written installation and alignment instructions.

C. Equipment Mounting:

1. Install packaged engine generators on cast-in-place concrete equipment bases. Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."

2. Coordinate size and location of concrete bases for packaged engine generators. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.
3. Install packaged engine generator with elastomeric isolator pads having a minimum deflection of [1 inch (25 mm) on 4-inch- (100-mm-) high concrete base. Secure enclosure to anchor bolts installed in concrete bases.."

D. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.

E. Exhaust System: Install Schedule 40 black steel piping with welded joints and connect to engine muffler. Install thimble at wall. Piping shall be same diameter as muffler outlet.

1. Piping materials and installation requirements are specified in Section 232113 "Hydronic Piping."
2. Install flexible connectors and steel piping materials according to requirements in Section 232116 "Hydronic Piping Specialties."
3. Insulate muffler/silencer and exhaust system components according to requirements in Section 230719 "HVAC Piping Insulation."
4. Install isolating thimbles where exhaust piping penetrates combustible surfaces with a minimum of 9 inches (225 mm) of clearance from combustibles.

F. Drain Piping: Install condensate drain piping to muffler drain outlet full size of drain connection with a shutoff valve, stainless-steel flexible connector, and Schedule 40 black steel pipe with welded joints.

1. Piping materials and installation requirements are specified in Section 232113 "Hydronic Piping."
2. Drain piping valves, connectors, and installation requirements are specified in Section 232116 "Hydronic Piping Specialties."

G. Fuel Piping:

1. Diesel storage tanks, tank accessories, piping, valves, and specialties for fuel systems are specified in Section 231113 "Facility Fuel-Oil Piping."
2. Copper and galvanized steel shall not be used in the fuel-oil piping system.

H. Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

3.4 CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping and specialties.

B. Connect fuel, cooling-system, and exhaust-system piping adjacent to packaged engine generator to allow space for service and maintenance.

C. Connect engine exhaust pipe to engine with flexible connector.

D. Connect fuel piping to engines with a gate valve and union and flexible connector.

E. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

F. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables." Provide a minimum of one 90-degree bend in flexible conduit routed to the engine generator from a stationary element.

G. Balance single-phase loads to obtain a maximum of 10 percent unbalance between any two phases.

3.5 IDENTIFICATION

A. Identify system components according to Section 230553 "Identification for HVAC Piping and Equipment" and Section 260553 "Identification for Electrical Systems."

B. Install a sign indicating the generator neutral is bonded to the main service neutral at the main service location.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Perform tests and inspections with the assistance of a factory-authorized service representative.

C. Tests and Inspections:

1. Perform tests recommended by manufacturer and each visual and mechanical inspection and electrical and mechanical test listed in first two subparagraphs below, as specified in NETA ATS. Certify compliance with test parameters.

    a. Visual and Mechanical Inspection:

        1) Compare equipment nameplate data with Drawings and the Specifications.
        2) Inspect physical and mechanical condition.
        3) Inspect anchorage, alignment, and grounding.
        4) Verify that the unit is clean.

    b. Electrical and Mechanical Tests:

        1) Perform insulation-resistance tests according to IEEE 43.

            a) Machines Larger Than 200 hp (150 kW): Test duration shall be 10 minutes. Calculate polarization index.
            b) Machines 200 hp (150 kW) or Less: Test duration shall be one minute. Calculate the dielectric-absorption ratio.

        2) Test protective relay devices.

3) Verify phase rotation, phasing, and synchronized operation as required by the application.
4) Functionally test engine shutdown for low oil pressure, overtemperature, overspeed, and other protection features as applicable.
5) Verify correct functioning of the governor and regulator.

2. Battery Tests: Equalize charging of battery cells according to manufacturer's written instructions. Record individual cell voltages.

a. Measure charging voltage and voltages between available battery terminals for full-charging and float-charging conditions. Check electrolyte level and specific gravity under both conditions.
b. Test for contact integrity of all connectors. Perform an integrity load test and a capacity load test for the battery.
c. Verify acceptance of charge for each element of the battery after discharge.
d. Verify that measurements are within manufacturer's specifications.

3. Battery-Charger Tests: Verify specified rates of charge for both equalizing and float-charging conditions.
4. System Integrity Tests: Methodically verify proper installation, connection, and integrity of each element of engine generator system before and during system operation. Check for air, exhaust, and fluid leaks.
5. Voltage and Frequency Transient Stability Tests: Use recording oscilloscope to measure voltage and frequency transients for 50 and 100 percent step-load increases and decreases, and verify that performance is as specified.
6. Harmonic-Content Tests: Measure harmonic content of output voltage at 25 and 100 percent of rated linear load. Verify that harmonic content is within specified limits.

D. Coordinate tests with tests for transfer switches and run them concurrently.

E. Test instruments shall have been calibrated within the past 12 months, traceable to NIST Calibration Services, and adequate for making positive observation of test results. Make calibration records available for examination on request.

F. Leak Test: After installation, charge exhaust, coolant, and fuel systems and test for leaks. Repair leaks and retest until no leaks exist.

G. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation for generator and associated equipment.

H. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

I. Remove and replace malfunctioning units and retest as specified above.

J. Retest: Correct deficiencies identified by tests and observations, and retest until specified requirements are met.

K. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation resistances, time delays, and other values and observations. Attach a label or tag to each tested component indicating satisfactory completion of tests.

L. Infrared Scanning: After Substantial Completion, but not more than 60 days after final acceptance, perform an infrared scan of each power wiring termination and each bus connection while running with maximum load. Remove all access panels so terminations and connections are accessible to portable scanner.

1. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan 11 months after date of Substantial Completion.
2. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
3. Record of Infrared Scanning: Prepare a certified report that identifies terminations and connections checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.7 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of manufacturer's authorized service representative. Include quarterly preventive maintenance and exercising to check for proper starting, load transfer, and running under load. Include routine preventive maintenance as recommended by manufacturer and adjusting as required for proper operation. Parts shall be manufacturer's authorized replacement parts and supplies.

3.8 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain packaged engine generators.

END OF SECTION 263213.14

SECTION 26 36 00 - TRANSFER SWITCHES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes automatic transfer switches rated 600 V and less, including the following:

1. Bypass/isolation switches.
2. Remote annunciator system.
3. Remote annunciator and control system.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for transfer switches.
2. Include rated capacities, operating characteristics, electrical characteristics, and accessories.

B. Shop Drawings:

1. Include plans, elevations, sections, details showing minimum clearances, conductor entry provisions, gutter space, and installed features and devices.
2. Include material lists for each switch specified.
3. Single-Line Diagram: Show connections between transfer switch, bypass/isolation switch**,** power sources, and load; and show interlocking provisions for each combined transfer switch and bypass/isolation switch.
4. Riser Diagram: Show interconnection wiring between transfer switches, bypass/isolation switches, annunciators, and control panels.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer-authorized service representative.

B. Seismic Qualification Data: Certificates, for transfer switches, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Features and operating sequences, both automatic and manual.
b. List of all factory settings of relays; provide relay-setting and calibration instructions, including software, where applicable.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications:

1. Member company of NETA.

a. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.7 FIELD CONDITIONS

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service:

1. Notify Owner no fewer than two days in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without Owner's written permission.

1.8 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of transfer switch or transfer switch components that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 12 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NEMA ICS 1.

C. Comply with NFPA 99.

D. Comply with UL 1008 unless requirements of these Specifications are stricter.

E. Indicated Current Ratings: Apply as defined in UL 1008 for continuous loading and total system transfer, including tungsten filament lamp loads not exceeding 30 percent of switch ampere rating, unless otherwise indicated.

F. Tested Fault-Current Closing and Short-Circuit Ratings: Adequate for duty imposed by protective devices at installation locations in Project under the fault conditions indicated, based on testing according to UL 1008.

1. Where transfer switch includes internal fault-current protection, rating of switch and trip unit combination shall exceed indicated fault-current value at installation location.

G. Repetitive Accuracy of Solid-State Controls: All settings shall be plus or minus 2 percent or better over an operating temperature range of minus 20 to plus 70 deg C.

H. Resistance to Damage by Voltage Transients: Components shall meet or exceed voltage-surge withstand capability requirements when tested according to IEEE C62.62. Components shall meet or exceed voltage-impulse withstand test of NEMA ICS 1.

I. Electrical Operation: Accomplish by a nonfused, momentarily energized solenoid or electric-motor-operated mechanism. Switches for emergency or standby purposes shall be mechanically and electrically interlocked in both directions to prevent simultaneous connection to both power sources unless closed transition.

J. Service-Rated Transfer Switch:

1. Comply with UL 869A and UL 489.
2. Provide terminals for bonding the grounding electrode conductor to the grounded service conductor.
3. In systems with a neutral, the bonding connection shall be on the neutral bus.
4. Provide removable link for temporary separation of the service and load grounded conductors.
5. Surge Protective Device: Service rated.
6. Service Disconnecting Means: Externally operated, manual mechanically actuated.

K. Neutral Terminal: Solid and fully rated unless otherwise indicated.

L. Oversize Neutral: Ampacity and switch rating of neutral path through units indicated for oversize neutral shall be double the nominal rating of circuit in which switch is installed.

M. Heater: Equip switches exposed to outdoor temperatures and humidity, and other units indicated, with an internal heater. Provide thermostat within enclosure to control heater.

N. Battery Charger: For generator starting batteries.

1. Float type, rated 2 A.
2. Ammeter to display charging current.
3. Fused ac inputs and dc outputs.

O. Annunciation, Control, and Programming Interface Components: Devices at transfer switches for communicating with remote programming devices, annunciators, or annunciator and control panels shall have communication capability matched with remote device.

P. Factory Wiring: Train and bundle factory wiring and label, consistent with Shop Drawings, by color-code or by numbered or lettered wire and cable with printed markers at terminations. Color-coding and wire and cable markers are specified in Section 260553 "Identification for Electrical Systems."

1. Designated Terminals: Pressure type, suitable for types and sizes of field wiring indicated.
2. Power-Terminal Arrangement and Field-Wiring Space: Suitable for top, side, or bottom entrance of feeder conductors as indicated.
3. Control Wiring: Equipped with lugs suitable for connection to terminal strips.
4. Accessible via front access.

Q. Enclosures: General-purpose NEMA 250, Type 3R, complying with NEMA ICS 6 and UL 508, unless otherwise indicated.

2.2 CONTACTOR-TYPE AUTOMATIC TRANSFER SWITCHES

A. Manufacturers

1. Kohler (Basis of design)
2. Generac
3. ASCO
4. Or approved equal.

B. Comply with Level 1 equipment according to NFPA 110.

C. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.

1. Limitation: Switches using molded-case switches or circuit breakers or insulated-case circuit-breaker components are unacceptable.
2. Switch Action: Double throw; mechanically held in both directions.

3. Contacts: Silver composition or silver alloy for load-current switching. Contactor-style automatic transfer-switch units, rated 600 A and higher, shall have separate arcing contacts.
4. Conductor Connectors: Suitable for use with conductor material and sizes.
5. Material: Tin-plated aluminum or Hard-drawn copper, 98 percent conductivity.
6. Main and Neutral Lugs: Mechanical type.
7. Ground bar.
8. Connectors shall be marked for conductor size and type according to UL 1008.

D. Automatic Open-Transition Transfer Switches: Interlocked to prevent the load from being closed on both sources at the same time.

1. Sources shall be mechanically and electrically interlocked to prevent closing both sources on the load at the same time.

E. Automatic Delayed-Transition Transfer Switches: Pauses or stops in intermediate position to momentarily disconnect both sources, with transition controlled by programming in the automatic transfer-switch controller. Interlocked to prevent the load from being closed on both sources at the same time.

1. Adjustable Time Delay: For override of normal-source voltage sensing to delay transfer and engine start signals for alternative source. Adjustable from zero to six seconds, and factory set for one second.
2. Sources shall be mechanically and electrically interlocked to prevent closing both sources on the load at the same time.
3. Fully automatic break-before-make operation with center off position.

F. Signal-Before-Transfer Contacts: A set of normally open/normally closed dry contacts operates in advance of retransfer to normal source. Interval shall be adjustable from 1 to 30 seconds.

G. Digital Communication Interface: Matched to capability of remote annunciator or annunciator and control panel.

H. Automatic Transfer-Switch Controller Features:

1. Controller operates through a period of loss of control power.
2. Undervoltage Sensing for Each Phase of Normal and Alternate Source: Sense low phase-to-ground voltage on each phase. Pickup voltage shall be adjustable from 85 to 100 percent of nominal, and dropout voltage shall be adjustable from 75 to 98 percent of pickup value. Factory set for pickup at 90 percent and dropout at 85 percent.
3. Voltage/Frequency Lockout Relay: Prevent premature transfer to generator. Pickup voltage shall be adjustable from 85 to 100 percent of nominal. Factory set for pickup at 90 percent. Pickup frequency shall be adjustable from 90 to 100 percent of nominal. Factory set for pickup at 95 percent.
4. Time Delay for Retransfer to Normal Source: Adjustable from zero to 30 minutes, and factory set for 10 minutes. Override shall automatically defeat delay on loss of voltage or sustained undervoltage of emergency source, provided normal supply has been restored.
5. Test Switch: Simulate normal-source failure.
6. Switch-Position Pilot Lights: Indicate source to which load is connected.
7. Source-Available Indicating Lights: Supervise sources via transfer-switch normal- and emergency-source sensing circuits.

a. Normal Power Supervision: Green light with nameplate engraved "Normal Source Available."
b. Emergency Power Supervision: Red light with nameplate engraved "Emergency Source Available."

8. Unassigned Auxiliary Contacts: Two normally open, single-pole, double-throw contacts for each switch position, rated 10 A at 240-V ac.
9. Transfer Override Switch: Overrides automatic retransfer control so transfer switch will remain connected to emergency power source regardless of condition of normal source. Pilot light indicates override status.
10. Engine Starting Contacts: One isolated and normally closed, and one isolated and normally open; rated 10 A at 32-V dc minimum.
11. Engine Shutdown Contacts: Time delay adjustable from zero to five minutes, and factory set for five minutes. Contacts shall initiate shutdown at remote engine-generator controls after retransfer of load to normal source.
12. Engine-Generator Exerciser: Solid-state, programmable-time switch starts engine generator and transfers load to it from normal source for a preset time, then retransfers and shuts down engine after a preset cool-down period. Initiates exercise cycle at preset intervals adjustable from 7 to 30 days. Running periods shall be adjustable from 10 to 30 minutes. Factory settings shall be for 7-day exercise cycle, 20-minute running period, and 5-minute cool-down period. Exerciser features include the following:

a. Exerciser Transfer Selector Switch: Permits selection of exercise with and without load transfer.
b. Push-button programming control with digital display of settings.
c. Integral battery operation of time switch when normal control power is unavailable.

I. Large-Motor-Load Power Transfer:

1. In-Phase Monitor: Factory-wired, internal relay controls transfer so contacts close only when the two sources are synchronized in phase and frequency. Relay shall compare phase relationship and frequency difference between normal and emergency sources and initiate transfer when both sources are within 15 electrical degrees, and only if transfer can be completed within 60 electrical degrees. Transfer shall be initiated only if both sources are within 2 Hz of nominal frequency and 70 percent or more of nominal voltage.
2. Motor Disconnect and Timing Relay Controls: Designated starters in loss of power scenario shall disconnect motors before transfer and reconnect them selectively at an adjustable time interval after transfer. Control connection to motor starters shall be through wiring external to automatic transfer switch. Provide adjustable time delay between 1 and 60 seconds for reconnecting individual motor loads. Provide relay contacts rated for motor-control circuit inrush and for actual seal currents to be encountered.
3. Programmed Neutral Switch Position: Switch operator with programmed neutral position arranged to provide a midpoint between the two working switch positions, with an intentional, time-controlled pause at midpoint during transfer. Adjustable pause from 0.5 to 30 seconds minimum, and factory set for 0.5 second unless otherwise indicated. Time delay occurs for both transfer directions. Disable pause unless both sources are live.

2.3 TRANSFER SWITCH ACESSORIES

A. Bypass/Isolation Switches:

1. Source Limitations: Same manufacturer as transfer switch in which installed.
2. Comply with requirements for Level 1 equipment according to NFPA 110.
3. Description: Manual type, arranged to select and connect either source of power directly to load, isolating transfer switch from load and from both power sources. Include the following features for each combined automatic transfer switch and bypass/isolation switch:

    a. Means to lock bypass/isolation switch in the position that isolates transfer switch with an arrangement that permits complete electrical testing of transfer switch while isolated. Interlocks shall prevent transfer-switch operation, except for testing or maintenance, while automatic transfer switch is isolated.
    b. Provide means to make power available to transfer-switch control circuit for testing and maintenance purposes.
    c. Drawout Arrangement for Transfer Switch: Provide physical separation from live parts and accessibility for testing and maintenance operations. Transfer switch and bypass/isolation switch shall be in isolated compartments.
    d. Transition: Provide open-transition operation when transferring between power sources.
    e. Bypass/Isolation Switch Current, Voltage, Closing, and Short-Circuit Withstand Ratings: Equal to or greater than those of associated automatic transfer switch, and with same phase arrangement and number of poles.
    f. Contact temperatures of bypass/isolation switches shall not exceed those of automatic transfer-switch contacts when they are carrying rated load.
    g. Automatic and Nonautomatic Control: Automatic transfer-switch controller shall also control the bypass/isolation switch.
    h. Legend: Manufacturer's standard legend for control labels and instruction signs shall describe operating instructions.
    i. Maintainability: Fabricate to allow convenient removal of major components from front without removing other parts or main power conductors.

4. Interconnection of Bypass/Isolation Switches with Automatic Transfer Switches: Factory-installed copper bus bars; plated at connection points and braced for the indicated available short-circuit current.

2.4 SOURCE QUALITY CONTROL

A. Factory Tests: Test and inspect components, assembled switches, and associated equipment according to UL 1008. Ensure proper operation. Check transfer time and voltage, frequency, and time-delay settings for compliance with specified requirements. Perform dielectric strength test complying with NEMA ICS 1.

B. Prepare test and inspection reports.

1. For each of the tests required by UL 1008, performed on representative devices, for legally required systems. Include results of test for the following conditions:

a. Overvoltage.
b. Undervoltage.
c. Loss of supply voltage.
d. Reduction of supply voltage.
e. Alternative supply voltage or frequency is at minimum acceptable values.
f. Temperature rise.
g. Dielectric voltage-withstand; before and after short-circuit test.
h. Overload.
i. Contact opening.
j. Endurance.
k. Short circuit.
l. Short-time current capability.
m. Receptacle withstand capability.
n. Insulating base and supports damage.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Annunciator and Control Panel Mounting: Flush in wall unless otherwise indicated.

B. Identify components according to Section 260553 "Identification for Electrical Systems."

C. Set field-adjustable intervals and delays, relays, and engine exerciser clock.

D. Comply with NECA 1.

3.2 CONNECTIONS

A. Wiring to Remote Components: Match type and number of cables and conductors to generator sets, control, and communication requirements of transfer switches as recommended by manufacturer. Increase raceway sizes at no additional cost to Owner if necessary to accommodate required wiring.

B. Wiring Method: Install cables in raceways and cable trays except within electrical enclosures. Conceal raceway and cables except in unfinished spaces.

1. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."

C. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii.

D. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

E. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

F. Connect twisted pair cable according to Section 260523 "Control-Voltage Electrical Power Cables."

G. Route and brace conductors according to manufacturer's written instructions and Section 260529 "Hangers and Supports for Electrical Systems." Do not obscure manufacturer's markings and labels.

H. Final connections to equipment shall be made with liquidtight, flexible metallic conduit no more than 18 inches in length.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. After installing equipment, test for compliance with requirements according to NETA ATS.
2. Visual and Mechanical Inspection:

    a. Compare equipment nameplate data with Drawings and Specifications.
    b. Inspect physical and mechanical condition.
    c. Inspect anchorage, alignment, grounding, and required clearances.
    d. Verify that the unit is clean.
    e. Verify appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.
    f. Verify that manual transfer warnings are attached and visible.
    g. Verify tightness of all control connections.
    h. Inspect bolted electrical connections for high resistance using one of the following methods, or both:

        1) Use of low-resistance ohmmeter.
        2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method according to manufacturer's published data.

    i. Perform manual transfer operation.
    j. Verify positive mechanical interlocking between normal and alternate sources.
    k. Perform visual and mechanical inspection of surge arresters.
    l. Inspect control power transformers.

        1) Inspect for physical damage, cracked insulation, broken leads, tightness of connections, defective wiring, and overall general condition.
        2) Verify that primary and secondary fuse or circuit-breaker ratings match Drawings.
        3) Verify correct functioning of drawout disconnecting contacts, grounding contacts, and interlocks.

3. Electrical Tests:

    a. Perform insulation-resistance tests on all control wiring with respect to ground.
    b. Perform a contact/pole-resistance test. Compare measured values with manufacturer's acceptable values.
    c. Verify settings and operation of control devices.
    d. Calibrate and set all relays and timers.
    e. Verify phase rotation, phasing, and synchronized operation.
    f. Perform automatic transfer tests.
    g. Verify correct operation and timing of the following functions:

        1) Normal source voltage-sensing and frequency-sensing relays.
        2) Engine start sequence.
        3) Time delay on transfer.
        4) Alternative source voltage-sensing and frequency-sensing relays.
        5) Automatic transfer operation.
        6) Interlocks and limit switch function.
        7) Time delay and retransfer on normal power restoration.
        8) Engine cool-down and shutdown feature.

4. Measure insulation resistance phase-to-phase and phase-to-ground with insulation-resistance tester. Include external annunciation and control circuits. Use test voltages and procedure recommended by manufacturer. Comply with manufacturer's specified minimum resistance.

    a. Check for electrical continuity of circuits and for short circuits.
    b. Inspect for physical damage, proper installation and connection, and integrity of barriers, covers, and safety features.
    c. Verify that manual transfer warnings are properly placed.
    d. Perform manual transfer operation.

5. After energizing circuits, perform each electrical test for transfer switches stated in NETA ATS and demonstrate interlocking sequence and operational function for each switch at least three times.

    a. Simulate power failures of normal source to automatic transfer switches and retransfer from emergency source with normal source available.
    b. Simulate loss of phase-to-ground voltage for each phase of normal source.
    c. Verify time-delay settings.
    d. Verify pickup and dropout voltages by data readout or inspection of control settings.
    e. Test bypass/isolation unit functional modes and related automatic transfer-switch operations.
    f. Verify proper sequence and correct timing of automatic engine starting, transfer time delay, retransfer time delay on restoration of normal power, and engine cool-down and shutdown.

6. Ground-Fault Tests: Coordinate with testing of ground-fault protective devices for power delivery from both sources.

    a. Verify grounding connections and locations and ratings of sensors.

D. Coordinate tests with tests of generator and run them concurrently.

E. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation and contact resistances and time delays. Attach a label or tag to each tested component indicating satisfactory completion of tests.

F. Transfer switches will be considered defective if they do not pass tests and inspections.

G. Remove and replace malfunctioning units and retest as specified above.

H. Prepare test and inspection reports.

I. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each switch. Remove all access panels so joints and connections are accessible to portable scanner.

1. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
2. Record of Infrared Scanning: Prepare a certified report that identifies switches checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.
3. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each switch 11 months after date of Substantial Completion.

3.4 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain transfer switches and related equipment.

B. Training shall include testing ground-fault protective devices and instructions to determine when the ground-fault system shall be retested. Include instructions on where ground-fault sensors are located and how to avoid negating the ground-fault protection scheme during testing and circuit modifications.

C. Coordinate this training with that for generator equipment.

END OF SECTION 263600

SECTION 26 51 00 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

A. This Section includes the following:

1. Interior lighting fixtures, lamps, and ballasts.
2. Emergency lighting units.
3. Exit signs.

1.3 DEFINITIONS

A. CRI: Color-rendering index.

B. CRI: Color Rendering Index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. LED: Light emitting diode

F. Lumen: Measured output of lamp and luminaire, or both.

G. Luminaire: Complete lighting fixture, including ballast housing if provided.

1.4 SUBMITTALS

A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:

1. Physical description of lighting fixture including dimensions.

2. Emergency lighting units including battery and charger.
3. Driver.
4. Energy-efficiency data.
5. Life, output, and energy-efficiency data for LEDs.
6. Photometric data, in IESNA format, based on laboratory tests of each lighting fixture type, outfitted with drivers or LEDs and accessories identical to those indicated for the lighting fixture as applied in this Project.

    a. For indicated fixtures, photometric data shall be certified by a qualified independent testing agency. Photometric data for remaining fixtures shall be certified by the manufacturer.
    b. Photometric data shall be certified by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program (NVLAP) for Energy Efficient Lighting Products.

B. Luminaire installation instructions.

C. Product Certificates: For each type of driver for bi-level and dimmer-controlled fixtures, signed by product manufacturer.

D. Qualification Data: For agencies providing photometric data for lighting fixtures.

E. Field quality-control test reports.

F. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.

G. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

1.6 COORDINATION

A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

B. Provide support structures as required for various fixture installation locations such as under ductwork or other work that prevents fixture mounting to building structure.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. LED Fixtures: 1 for each type

1.8 WARRANTY

A. Special Warranty for LED luminaires: Manufacturer's standard form in which the luminaire manufacturer agrees to repair or replace any failed components, material, or workmanship within specified warranty period.

1. Warranty period for LED luminaires: Five (5) years minimum from the date of substantial completion.

1.9 DELIVERY, STORAGE, AND HANDLING

1. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering before shipping.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In Luminaire Schedule where titles below are column or row headings that introduce lists, the following requirements apply to product selection:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Recessed Fixtures: Comply with NEMA LE 4.

C. Lamp base complying with ANSI C81.61.

D. CRI of minimum 90, CCT of 3500 K.

E. Nominal Operating Voltage: 120 V ac.

2.3 LIGHTING FIXTURES AND COMPONENTS, GENERAL REQUIREMENTS

A. Metal Parts: Free of burrs and sharp corners and edges.

B. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.

C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

D. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.
3. Diffusing Specular Surfaces: 75 percent.
4. Laminated Silver Metallized Film: 90 percent.

E. Plastic Diffusers, Covers, and Globes:

1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.

    a. Lens Thickness: At least 0.125 inch (3.175 mm) minimum unless different thickness is indicated.
    b. UV stabilized.

2. Glass: Annealed crystal glass, unless otherwise indicated.

2.4 LED SYSTEMS

A. The LED array module or LED board and all its components shall be subject to mechanical stress.

B. Assembly shall not be put together in such a way as to damage or destroy conducting paths of the LED circuit board.

C. Installation of LED modules and all its components that are required for operation, including power supplies shall comply with all applicable electrical safety standards.

D. Electrical polarity shall be clearly identified, or the connectors shall be designed in a way that polarity can’t be reversed when the modules are electrically plugged in.

E. LED modules shall be installed in specifically designed housing or be tested in a housing that has the proper thermal heat sinking properties to support LED array installation.

F. LED circuit board shall be protected by a coating against moisture and dust. The coating shall be factory applied,

G. The LED array module shall be operated with an electronically stabilized power supply offering protection from short circuits, overload, and overheating.

2.5 EXIT SIGNS

A. Description: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.

B. Internally Lighted Signs:

1. Lamps for AC Operation: LEDs, 70,000 hours minimum rated lamp life.
2. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.

    a. Battery: Sealed, maintenance-free, nickel-cadmium type.
    b. Charger: Fully automatic, solid-state type with sealed transfer relay.
    c. Operation: Relay automatically energizes lamp from battery when circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
    d. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
    e. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

2.6 EMERGENCY LIGHTING UNITS

A. Description: Self-contained units complying with UL 924.

1. Battery: Sealed, maintenance-free, lead-acid type.
2. Charger: Fully automatic, solid-state type with sealed transfer relay.
3. Operation: Relay automatically turns lamp on when power supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
4. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
5. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

2.7 LIGHTING FIXTURE SUPPORT COMPONENTS

A. Comply with Division 26 Section "Hangers and Supports for Electrical Systems" for channel- and angle-iron supports, and nonmetallic channel and angle supports.

B. Single-Stem Hangers: 1/2-inch (13-mm) steel tubing with swivel ball fittings and ceiling canopy. Finish same as fixture.

C. Twin-Stem Hangers: Two, 1/2-inch (13-mm) steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.

D. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage (2.68 mm).

E. Rod Hangers: 3/16-inch (5-mm) minimum diameter, cadmium-plated, threaded steel rod.

F. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for luminaire to verify actual locations of luminaire and electrical connections before fixture installation. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with NECA 1.

B. Install luminaires level, plumb, and square with ceilings and walls unless otherwise indicated.

C. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and maintenance.
3. Provide support for luminaire without causing deflection of ceiling or wall.
4. Luminaire mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and vertical force of 400 percent of luminaire weight.

D. Flush-Mounted Luminaire Support:

1. Secured to outlet box.
2. Attached to ceiling structural members at four points equally spaced around circumference of luminaire.
3. Trim ring flush with finished surface.

E. Wall-Mounted Luminaire Support:

1. Attached to structural members in walls.

2. Do not attach luminaires directly to gypsum board.

3.3 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.

B. Luminaire will be considered defective if it does not pass operation tests and inspections.

C. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery and retransfer to normal.

D. Prepare test and inspection reports.

END OF SECTION 265100

SECTION 26 56 19 – LED EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Exterior solid-state luminaires that are designed for and exclusively use LED lamp technology.
2. Luminaire supports.
3. Luminaire-mounted photoelectric relays.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color rendering index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. Lumen: Measured output of lamp and luminaire, or both.

F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of luminaire.

1. Arrange in order of luminaire designation.
2. Include data on features, accessories, and finishes.
3. Include physical description and dimensions of luminaire.
4. Lamps, include life, output (lumens, CCT, and CRI), and energy-efficiency data.
5. Photometric data and adjustment factors based on laboratory tests, complying with IES Lighting Measurements Testing and Calculation Guides, of each luminaire type. The adjustment factors shall be for lamps and accessories identical to those indicated for the luminaire as applied in this Project.

a. Manufacturer's Certified Data: Photometric data certified by manufacturer's laboratory with a current accreditation under the NVLAP for Energy Efficient Lighting Products.
b. Testing Agency Certified Data: For indicated luminaires, photometric data certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.

6. Wiring diagrams for power, control, and signal wiring.
7. Photoelectric relays.
8. Means of attaching luminaires to supports and indication that the attachment is suitable for components involved.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Product Schedule: For luminaires and lamps. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Luminaires.
2. Structural members to which luminaires will be attached.
3. Underground utilities and structures.
4. Existing underground utilities and structures.
5. Above-grade utilities and structures.
6. Existing above-grade utilities and structures.
7. Building features.
8. Vertical and horizontal information.

B. Qualification Data: For testing laboratory providing photometric data for luminaires.

C. Product Certificates: For each type of the following:

1. Luminaire.
2. Photoelectric relay.

D. Product Test Reports: For each luminaire, for tests performed by manufacturer and witnessed by a qualified testing agency.

E. Source quality-control reports.

F. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires to include in operation and maintenance manuals.

1. Provide a list of all lamp types used on Project. Use ANSI and manufacturers' codes.
2. Provide a list of all photoelectric relay types used on Project; use manufacturers' codes.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Lamps: 3 of each type and rating installed. Furnish at least one of each type.
2. Glass, Acrylic, and Plastic Lenses, Covers, and Other Optical Parts: 3 of each type and rating installed. Furnish at least one of each type.
3. Diffusers and Lenses: 3 of each type and rating installed. Furnish at least one of each type.
4. Globes and Guards: 3 of each type and rating installed. Furnish at least one of each type.
5. LED Fixtures: Furnish 3 for every 100 of each type and rating installed. Furnish at least one of each type that has 8 or more installed.

1.8 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.7, accredited under the NVLAP for Energy Efficient Lighting Products and complying with applicable IES testing standards.

B. Provide luminaires from a single manufacturer for each luminaire type.

C. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.

D. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering prior to shipping.

1.10 FIELD CONDITIONS

A. Verify existing and proposed utility structures prior to the start of work associated with luminaire installation.

B. Mark locations of exterior luminaires for approval by Architect prior to the start of luminaire installation.

1.11 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures, including luminaire support components.
b. Faulty operation of luminaires and accessories.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NRTL Compliance: Luminaires shall be listed and labeled for indicated class and division of hazard by an NRTL.

C. UL Compliance: Comply with UL 1598 and listed for wet location.

D. Lamp base complying with ANSI C81.61 or IEC 60061-**1**.

E. Bulb shape complying with ANSI C79.1.

F. Lamps dimmable from 100 percent to 0 percent of maximum light output.

G. Internal driver.

H. Nominal Operating Voltage: 120 V

I. Lamp Rating: Lamp marked for outdoor use.

J. Source Limitations: For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 LUMINAIRE TYPES

A. Area and Site:

1. Manufacturer; See Luminaire Schedule
2. Mounting: See drawings.
3. Luminaire-Mounting Height: See drawings.
4. Distribution: refer to luminaire schedule.
5. Diffusers and Globes: Impact resistant glass
6. Housings: refer to luminaire schedule.

2.3 MATERIALS

A. Metal Parts: Free of burrs and sharp corners and edges.

B. Sheet Metal Components: Form and support to prevent warping and sagging.

C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.

D. Diffusers and Globes:
   1. Glass: Annealed crystal glass unless otherwise indicated.
   2. Lens Thickness: At least 0.125 inch (3.175 mm) minimum unless otherwise indicated.

E. Lens and Refractor Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

F. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:

   1. White Surfaces: 85 percent.
   2. Specular Surfaces: 83 percent.
   3. Diffusing Specular Surfaces: 75 percent.

G. Housings:

   1. Rigidly formed, weather- and light-tight enclosure that will not warp, sag, or deform in use.
   2. Provide filter/breather for enclosed luminaires.

H. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

   1. Label shall include the following lamp characteristics:

      a. "USE ONLY" and include specific lamp type.
      b. Lamp diameter, shape, size, wattage and coating.
      c. CCT and CRI for all luminaires.

2.4 FINISHES

A. Variations in Finishes: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

a. Color: As selected from manufacturer's standard catalog of colors.

2.5 LUMINAIRE SUPPORT COMPONENTS

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for luminaire electrical conduit to verify actual locations of conduit connections before luminaire installation.

C. Examine walls, roofs, for suitable conditions where luminaires will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 TEMPORARY LIGHTING

A. If approved by the Architect, use selected permanent luminaires for temporary lighting. When construction is substantially complete, clean luminaires used for temporary lighting and install new lamps.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Comply with NECA 1.

B. Install lamps in each luminaire.

C. Fasten luminaire to structural support.

D. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Support luminaires without causing deflection of finished surface.

4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.

E. Wall-Mounted Luminaire Support:

1. Attached to a minimum 1/8 inch (3 mm) backing plate attached to wall structural members or Attached using through bolts and backing plates on either side of wall.

F. Wiring Method: Install cables in raceways. Conceal raceways and cables.

G. Install luminaires level, plumb, and square with finished grade unless otherwise indicated**.**

H. Coordinate layout and installation of luminaires with other construction.

I. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" and Section 260533 "Raceways and Boxes for Electrical Systems" for wiring connections and wiring methods.

3.4 Ballast and Lamp Disposal

A. Subcontractor is responsible for disposing of ballasts and lamps per EPA and New York State regulations. Refer to NYPA environmental procedures for handling of waste by lighting retrofit/replacements.

3.5 CORROSION PREVENTION

A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.

B. Steel Conduits: Comply with Section 260533 "Raceways and Boxes for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch- (0.254-mm-) thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.6 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.7 FIELD QUALITY CONTROL

A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.

B. Perform the following tests and inspections Coordinate "Operational Test" Subparagraph below with requirements in Section 260923 "Lighting Control Devices."

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

C. Luminaire will be considered defective if it does not pass tests and inspections.

D. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.8 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain luminaires.

END OF SECTION 265619

SECTION 310000 - EARTHWORK BROADSCOPE

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Cast-in-Place Concrete: Section 033000.

B. Site Restoration: Section 310101.

C. Topsoil: Section 329120.

D. Seeding: Section 329219.

1.2 DEFINITIONS

A. The following terms have the meanings ascribed to them in this Article, wherever they appear in this Section.

1. Earth Excavation: The removal of all surface and subsurface material not classified as rock as defined below.
2. Rock: Limestone, sandstone, shale, granite, and similar material in solid beds or masses in its original or stratified position which can be removed only by blasting operations, drilling, wedging, or use of pneumatic tools, and boulders with a volume greater than 1.0 cu yd. Concrete building foundations and concrete slabs, not indicated, with a volume greater than 1.0 cu yd shall be classified as rock.
    a. Limestone, sandstone, shale, granite, and similar material in a broken or weathered condition which can be removed with an excavator or backhoe equipped with a bucket with ripping teeth or any other style bucket shall be classified as earth excavation.
    b. Masonry building foundations, whether indicated or not, shall be classified as earth excavation.
3. Unclassified Earth Excavation: The excavation and disposal of all surface and subsurface materials of any description necessary to perform the work of this contract. This will include:
    a. All soil deposits of any description both above and below groundwater levels. These may be naturally deposited or placed by previous construction operations.
    b. Ledge rock of all quality. (Limestone, Sandstone, Shale, Granite and similar materials in solid beds or masses in its original or stratified position which can only be removed by drilling, wedging, use of pneumatic tools or heavy ripping equipment.) Blasting operations will not be permitted to loosen any ledge rock necessary to be removed in this contract.
    c. Boulders of any size.
    d. Any materials of man-made origin.
4. Subgrade Surface: Surface upon which subbase or topsoil is placed.

5. Subbase: Select granular material or subbase course Type 2 which is placed immediately beneath pavement or concrete slabs.
6. Foundation Bearing Grade: Grade/elevation at which the bottom-of-footings are constructed.
7. Maximum Density: The dry unit weight in pounds per cubic foot of the soil at "Optimum Moisture Content" when determined by ASTM D 698 (Standard Proctor), or ASTM D 1557 (Modified Proctor).
8. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
9. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.
10. Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions indicated or specified without specific written direction by the Director's Representative.
11. Grading Limit Line (Shown on Drawings): Limits of grading, excavations and filling required for the work of this contract. Unless specifically noted otherwise, the Grading Limit Line and Contract Limit Line will be considered the same.

1.3 SUBMITTALS

A. Product Data:

1. Permanent Sheeting, Shoring, and Bracing: Specifications for materials and accessories.

B. Samples: Submit samples as follows. Take the samples in the presence of the Director's Representative, and submit to the Director's Representative the laboratory test results for gradation, proctors and soundness tests, when required. These tests will be performed in accordance with ASTM standards, will be performed and signed by a certified soils laboratory, and will be submitted as part of the original submittal. At a minimum the samples taken will be of the following quantities:

1. Select Granular Material: 50 - 60 lb. (Two Samples).
2. Subbase Course Type 2: 50 - 60 lb. (Two Samples).
3. Selected Fill: 40 - 50 lb.
4. Cushion Material: 30 lb.
5. Item B-12: 30lb, each gradation.
6. Crushed Stone: 30 lb.
7. Underdrain Filter Material: 40 - 50 lb.
8. Crushed Stone, Crushed Gravel, or Screened Gravel (Wastewater): 30 lb., each layer gradation (if more than one).
9. Sand Filter Material (Wastewater): 30 lb.

C. Quality Control Submittals:

1. Subbase Materials: Name and location of source and the DOT Source Number. If the material is not being taken from an approved DOT Source the results of the gradation and

soundness tests performed by an ASTM certified soils laboratory will be required.

2. Other Aggregates: Name and location of source and soil laboratory test results.

D. Excavation Stabilization and Dewatering Plan: The contractor shall develop an excavation stabilization and dewatering plan for the director's representative to review and approve prior to beginning the excavations. Shoring and/or dewatering methods should be designed by the contractor's engineer to maintain the stability of the subgrade and sidewalls.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect filter fabric from sunlight during transportation and storage.

1.5 PROJECT CONDITIONS

A. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants indicated to remain within the grading limit line with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. Do not store excavated material, or allow vehicular traffic or parking within the branch drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.

B. Cold Weather Requirements:

1. Excavation: When freezing temperatures are anticipated, do not excavate to final required elevations for concrete work unless concrete can be placed immediately.
2. Backfilling: If backfill is being placed during freezing temperatures the backfilling operations will be monitored by the Director's Representative and the following procedures will be followed:
    a. Frozen ground will be removed in its entirety from beneath and five feet beyond the area of fill placement.
    b. The fill material placed will consist of Selected Fill and will be free of all frozen chunks that exceed four inches in size. The material transported to the project site will only consist of material excavated from below the frost depth.
    c. At the end of the work day, the area of fill placement will be covered with insulated blankets, or left unprotected. Other means of protection (hay, wood chips, etc.) may also be used for protection provided it is approved by the Director's Representative.
    d. Following work day - Remove the insulated blankets and/or strip the area of all frozen material as specified previously.
    e. Upon establishing the subgrade elevations, protect the grades with insulated blankets or place additional material that will adequately insulate the exposed earth surface from frost. This additional fill or protective material will be stripped just prior to pouring concrete.

C. Thru-traffic or fill placement with heavy construction vehicles or equipment which causes rutting or weaving to occur within the perimeter of a building will not be permitted. If rutting or weaving occurs during placement of fill, place specified fill in a stable area outside building perimeter and spread with tracked equipment to specified layer thickness.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
4 inch	101.6	100
1/4 inch	6.35	35-65
No. 200	0.075	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve will not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve will consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.

B. Subbase Course Type 2: Stockpiled, crushed ledge rock or approved blast furnace slag. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	25-60
No. 40	0.425	5-40
No. 200	0.075	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve will not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve will consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.

C. Selected Fill/Engineered Structural Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation requirements specified below:

Sieve	Percent Passing

Sieve Size	Size opening (mm)	
3 inch	76.2	100
1 inch	25.4	80-95
½ inch	12.7	45-75
No. 4	4.75	30-60
No. 40	0.425	0-70
No. 200	0.075	0-15

D. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size will not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat will be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface.

1. Necessary suitable material borrow may be taken from borrow pits located on Facility property. Cut and form borrow pit areas as directed by the Director's representative.
2. Spoils from excavation are suitable for use as fill or backfill in landscaped areas if the material meets the required specifications for landscape fill. Contractor's geotechnical engineer and site engineer to determine if cut material is acceptable for fill.

E. Cushion Material: Will consist of clean, hard, durable, uncoated particles, free from lumps of clay and all deleterious substances and will meet the following gradation requirements:

Sieve Size		Percent Passing
Sieve Size	Size opening (mm)	
1/4 inch	6.35	100
No. 60	0.25	0-35
No. 100	0.15	0-10

F. Item B-12: Equal Blend of No.1 and No. 2 Crushed Stone that complies with material requirements of DOT Article 703-02, crushed stone only. To be used where subgrade soils become saturated or unstable, or extend below the water table. Over excavate saturated or unstable soils to replace with a minimum of 6-inch layer.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	95-100
½ inch	12.7	45-60
Sieve		Percent Passing
Sieve Size	Size opening (mm)	
¼ inch	6.35	0-15

G. No. 1 Coarse Aggregate: Crushed Stone that complies with material requirements of DOT Article 703-02 and meets the following gradation.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1 inch	25.4	100
1/2 inch	12.7	90-100
1/4 inch	6.35	0-15

H. No. 2 Coarse Aggregate: Crushed Stone that complies with material requirements of DOT Article 703-02 and meets the following gradation.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	90-100
1/2 inch	12.7	0-15

I. Rip Rap: Medium Stone Filling that complies with DOT Article 620-2.02 for stone filling.

J. Pea Gravel: Comply with DOT Article 703-02 for screened gravel.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1/2 inch	12.7	100
1/4 inch	6.35	90-100

1/8 inch	3.17	0-15
No. 200 Sieve	0.075	0-1

K. Flowable Fill: Shall consist of a mixture of Portland cement, sand, water and admixtures proportioned to provide a non-segregating, free-flowing, self-consolidating material that will result in a hardened, dense backfill.

1. 1. Shall have a 28 day compressive strength 100 PSI Minimum.

2.2 GEOTECHNICAL FABRICS

A. Filter Fabric (GeoTextile):

1. Drainage and Erosion Control: Amoco 1199 & 2019, Maccaferri MacTex MX140 & MX155, Mirafi 140N & 160N, Fiberweave 403 & 404 or equivalent.
2. Separation for foundation drains, underdrains, undercuts: Amoco 2002 & 2004, Contech Construction Products Inc. C-180, Synthetic Industries Geotex 250ST & 315ST, Mirafi Geolon HP570 & HP1500 or equivalent.
3. Separation/Stabilization beneath pavements: GeoTex 801, Bonded Fibers Products PN080, Maccaferri Gabions MacTex MX275 & 340, Mirafi 160N & 180N or equivalent.

2.3 WASTEWATER MATERIAL

A. Crushed Stone, Crushed Gravel, or Screened Gravel (Wastewater): Comply with applicable portions of DOT Section 703-02, except as otherwise indicated.

1. Gradation for Intermittent Subsurface Sand Filters: No. 6 Sieve to 1/4 inch and 3/4 to 1-1/2 inches.
2. Gradation for Intermittent Open Sand Filters:
   a. Top Layer: No. 6 Sieve to 1/4 inch.
   b. Middle Layer: 1/4 to 3/4 inch.
   c. Bottom Layer: 3/4 to 1-1/2 inches.
3. Gradation for Absorption Trenches (Tile Fields): 3/4 to 1-1/2 inches.
4. Gradation for Seepage Pits (Leaching Basins): 1-1/2 to 2-1/2 inches.

B. Sand Filter Material (Wastewater): Silica sand or other sound sand free from clay, loam, soft limestone or other impurities which may be disintegrated by sewage liquid.

1. Organic Content: Less than 1 percent; ASTM D2974 method and calculation.
2. Uniformity Coefficient: 4.0 or less.
3. Calcium Carbonate Content: Less than 3 percent by ASTM D4373.
4. Magnesium Sulfate Soundness Test: Less than 10 percent loss by weight after 5 test cycles by ASTM C88.
5. Shape: Rounded or oval. Do not use sharp sand, crushed flint or gravel.
6. Effective Size for Intermittent Subsurface Sand Filters where nitrification is not required: 0.50 to 1.0 mm.
7. Effective Size Intermittent Subsurface Sand Filters where nitrification is required: 0.25 to

1.0 mm.

8. Effective Size for Intermittent Open Sand Filters where nitrification is not required: 0.50 to 1.0 mm.
9. Effective Size for Intermittent Open Sand Filters where nitrification is required. 0.25 to 1.0 mm.

2.4 SHEETING, SHORING, AND BRACING

A. Steel Sheetpiling: Continuous interlock type complete with all required accessories, complying with ASTM A 328 or ASTM A 572.

1. Furnish steel sheetpiling of design, configuration, and length to resist pressure of earth to be retained.
2. Shop drawings and calculations for excavation support and protection systems shall be prepared and certified by a qualified Professional Engineer licensed in the State of New York.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

A. Clear and grub the Site within the Grading Limit Line (GLL) of trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.

1. Where roots and branches of trees indicated to be saved interfere with new construction, carefully and cleanly cut them back to point of branching.

B. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

3.2 REMOVAL OF TOPSOIL

A. Remove existing topsoil from areas within the Grading Limit Line where excavation or fill is required.

B. Stockpile approved topsoil where directed by the Director’s Representative until required for use. Place, grade, and shape stockpiles for proper drainage.

1. Topsoil will be tested prior to stockpiling. Stockpile only quantities of topsoil approved in writing for re-use.

3.3 UNDERGROUND UTILITIES

A. Locate existing underground utilities prior to commencing excavation work. Determine exact utility locations by hand excavated test pits. Support and protect utilities to remain in place.

B. Do not interrupt existing utilities that are in service until temporary or new utilities are installed and operational.

C. Utilities to remain in service: Will be re-routed as shown on the Contract Drawings.

D. Utilities abandoned beneath and five feet laterally beyond the structure's proposed footprint will be removed in their entirety. Excavations required for their removal will be backfilled and compacted as specified herein.

E. Utilities extending outside the five feet limit specified above may be abandoned in place provided their ends are adequately plugged as described below.

1. Permanently close open ends of abandoned underground utilities exposed by excavations, which extend outside the limits of the area to be excavated.
2. Close open ends of metallic conduit and pipe with threaded galvanized metal caps or plastic plugs or other approved method for the type of material and size of pipe. Do not use wood plugs.
3. Close open ends of concrete and masonry utilities with concrete or flow-able fill.

3.4 EXCAVATION

A. Excavate earth as required for the Work. Refer to the geotechnical report for specific excavation requirements and the soil boring logs for information on existing soils.

B. Install and maintain all erosion and sedimentation controls during all earthwork operations as specified on the Contract Drawings or as directed by local officials. If the erosion and sedimentation controls specified by the local officials are more stringent than those specified on the Contract Drawings contact the Director's Representative.

C. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29 - Labor, Part 1926 (OSHA).

1. Trenches: Deposit excavated material on one side of trench only. Trim banks of excavated material to prevent cave-ins and prevent material from falling or sliding into trench. Keep a clear footway between excavated material and trench edge. Maintain areas to allow free drainage of surface water.

D. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by the Director's Representative.

E. Excavation for Structures: Conform to elevations, lines, and limits indicated. Excavate to a vertical tolerance of plus or minus 1 inch. Extend excavation a sufficient lateral distance to provide clearance to execute the Work.

F. Footings and Foundations: The foundation bearing grade will be established just prior to constructing the concrete foundations when concrete is to bear on undisturbed soil or properly compacted backfill material, both approved by the Special Inspector.

1. Stepping Footings: Cut sloping surfaces under footings, foundations, steps, and where required for other Work as indicated.
2. Where footings and other Work requiring similar soil support will rest entirely on rock, remove loose soil and loose rock and place concrete to the required elevations down to lower rock elevation. Where footings and other Work requiring similar soil support will

rest partially on rock and partially on soil, immediately notify the Director before any backfilling or concrete placement occurs; the Director will determine the correct foundation treatment for the Work.

G. Slabs and Floors: Excavate to the following depths below bottom of concrete for addition of select granular material:

1. Interior Floors: 8 inches unless otherwise indicated.
2. Exterior Slabs and Steps: 12 inches unless otherwise indicated.

H. Pipe Trenches: Open only enough trench length to facilitate laying pipe sections. Unless otherwise indicated on the Drawings, excavate trenches approximately 24 inches wide plus the outside pipe diameter, equally divided on each side of pipe centerline. Cut trenches to cross section, elevation, profile, line, and grade indicated. Accurately grade and shape trench bottom for uniform bearing of pipe in undisturbed earth. Excavate at bell and coupling joints to allow ample room for proper pipe connections.

1. Trench in Rock: Excavate an additional 6 inches below bottom of pipe for bed of cushion material under the piping.

I. Open Ditches: Cut ditches to cross sections and grades indicated.

J. Pavement: Excavate to subgrade surface elevation.

K. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select granular material without altering the required footing elevation. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by the Director's representative.

1. Unauthorized excavations under structural Work such as footings, foundation bases, and retaining walls will be reported immediately to the Director before any concrete or backfilling Work commences.

L. Notify the Director's Representative upon completion of excavation operations. Do not proceed with the Work until the excavation is inspected and approved. Inspection of the excavation by the Director's Representative will be made on three working days notice.

M. Removal of Unsuitable Material Beneath Structures and Other Improvements: Excavate encountered unsuitable materials, which extend below required elevations, to additional depth as directed by the Director. Have cross sections taken, under the supervision of an independent Land Surveyor, to determine the quantity of such excavation. Do not backfill this excavation prior to quantity measurement.

1. Such additional excavation and backfilling, not due to error, fault or neglect of the Contractor and exceeding the numeric quantities indicated on the Drawings, will be paid for at the unit prices specified in this Bid Form Section 004113.

3.5 DEWATERING

A. Prior to the performance of any excavations provide dewatering methods such that the groundwater table is maintained at an elevation that is at least 2 feet beneath the excavated depth.

B. Prevent surface and subsurface water from flowing into excavations and trenches and from flooding the site and surrounding area.

C. Do not allow water to accumulate in excavations or trenches. Remove water from all excavations immediately to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Furnish and maintain pumps, sumps, suction and discharge piping systems, and other system components necessary to convey the water away from the Site.

D. Convey water removed from excavations, and rain water, to collecting or run-off area. Cut and maintain temporary drainage ditches and provide other necessary diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

E. Provide temporary controls to restrict the velocity of discharged water as necessary to prevent erosion and siltation of receiving areas.

F. Excavations shall be dewatered continuously until structures are completely backfilled to final grade elevations.

3.6 SETTLEMENT DETECTION

A. Excavating beneath the bearing grades of an existing structure: Establish a settlement detection method approved by the Director's Representative for structures subject to settlement from excavation, sheeting or sheetpiling operations. Maintain surveillance to detect any settlement.

B. Surcharging: Establish a settlement monitoring plan to accurately determine the settlements that have occurred and the rate that they occurred to adequately determine when settlement caused by surcharge is complete.

3.7 SHEETING, SHORING, AND BRACING

A. Temporary Sheeting: Install temporary sheeting or sheetpiling with shoring and bracing as required to create a safe working environment and prevent settlement or other damage to adjacent grounds and structures resulting from excavation operations. Shore and brace sheeting in a manner which will not interfere with progress of other Work or related contracts (if any) on this project. Check shoring and bracing for settlement, and adjust for settlement. Promptly remove temporary sheeting, shoring, and bracing when no longer required.

3.8 PLACING FILTER FABRIC

A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown.

B. Cover tears and other damaged areas with additional filter fabric layer extending three feet beyond the damage.

C. Do not permit traffic or construction equipment directly on filter fabric.

D. Backfill over filter fabric within two weeks after placement. Backfill in accordance with the fabric manufacturer's instructions and in a manner to prevent damage to the fabric.

3.9 PLACING FILL AND BACKFILL

A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Remove all asphalt pavement in its entirety from areas requiring the placement of fill or break up old pavements to a maximum size of four inches. Prior to placement of fill, smooth out and compact areas where wheel rutting has occurred due to stripping or earthwork operations.

B. If three or more feet of fill is required to establish subgrade elevations the existing pavement may remain provided it is adequately broken up. In areas where fill is less than three feet it shall be removed in its entirety from beneath areas requiring fill placement.

C. Excavations: Backfill as promptly as Work permits, but not until completion of the following:

1. Acceptance by the Director's Representative of construction below finish grade including, where applicable, dampproofing, waterproofing, perimeter insulation, and bearing capacity of supporting soil.
2. Inspection, testing, approval, and recording locations of underground utilities.
3. Removal of concrete formwork.
4. Removal of temporary sheeting or sheetpiling and backfilling of voids caused by removals.
5. Removal of trash and debris.
6. Installation of permanent or temporary bracing on horizontally supported walls.

D. Place backfill and fill materials in layers not more than eight inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice.

1. Place fill and backfill against foundation walls, and in confined areas such as trenches not easily accessible by larger compaction equipment, in maximum six inch thick loose depth layers.
2. For large fill areas, the layer thickness may be modified by the Director's Representative, at the Contractor's written request, if in the Director's Representative's judgment, the equipment used is capable of compacting the fill material in a greater layer thickness. This request will include the type and specifications of compaction equipment intended for use.

E. Concrete walls:

1. Do not place fill or backfill against concrete walls until the walls have attained 100 percent of their design strength. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place and any concrete components of the first floor structural system have attained 70 percent of their concrete design strength.

2. Prevent wedging action of backfill against structures backfilled on both sides, by placing backfill uniformly around structure so that the elevation on each side never differs by more than 24 inches.
3. Heavy construction equipment and heavy vibrating compaction equipment shall not be allowed within a horizontal distance that is equal to the depth of structural subgrade walls that has unbalanced backfill.

F. Foundation Drains:

1. Line pipe trench loosely with filter fabric. Lap successive sheets 18 inches.
2. Place underdrain filter material a minimum of 4 inches deep under pipe and 6 inches on both sides and over top of drain pipe.
3. Completely wrap underdrain filter material with filter fabric.
4. Within two weeks complete balance of backfill with selected fill extending 2 feet out from foundation wall and up to 6 inches below finished grade.

G. Perimeter Insulation: Before the insulation is installed, place and tamp specified backfill to a smooth plane even with the required elevation of the lower surface of the insulation.

H. Under Exterior Concrete Slabs and Steps:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place 12 inches of select granular material over subgrade surface.

I. Under Interior Concrete Slabs:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place six inches of select granular material over subgrade surface.

J. Under Pavements and Walks:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place as indicated.

K. Landscaped Areas: Place suitable material when required to complete fill or backfill areas up to subgrade surface elevation. Do not use material containing rocks over four inches in diameter within the top 12 inches of suitable material.

L. Pipe Tunnels: Place selected fill a minimum of 12 inches on both sides and over top of tunnel.

M. Plastic Pipe in Trenches: Place cushion material a minimum of six inches deep under pipe, 12 inches on both sides, and 12 inches above top of pipe. Complete balance of backfill as specified.

1. Trench in Rock: Place a minimum six inch deep bed of cushion material under pipe.

N. Copper Tubing and Steel Gas Pipe in Trenches: Place cushion material a minimum of six inches deep under pipe, 12 inches on both sides, and 12 inches above top of pipe. Complete balance of backfill as specified.

O. Backfilling Excavation Resulting From Removal of Unsuitable Material Beneath Structures and Other Improvements: Backfill the excavation with compacted select granular material.

1. Such additional backfilling, exceeding the numeric quantities indicated on the Drawings, is included in the unit prices specified in Bid Form Section 004113.

3.10 ADDITIONAL REQUIREMENTS FOR PLACING FILL TO SUPPORT STRUCTURES

A. Place fill within the entire area enclosed by a line 10 feet outside the perimeter of the structure to be constructed as follows:

1. Strip the area in accordance with the requirements for Surface Preparation of Fill Areas.
2. Compact the stripped surface to 95 percent of maximum density.
3. Place fill in horizontal layers not exceeding eight inches loose depth and compact layers as specified.

B. Place fill within the entire area enclosed by a line 10 feet outside the perimeter of the structure to be constructed as follows:

1. Strip the area in accordance with the requirements for Surface Preparation of Fill Areas.
2. Proof roll the stripped surface with at least five passes of a vibratory drum compactor having a minimum unsprung drum weight of seven tons. Notify the Director's Representative of the proposed date for beginning proof rolling at least seven working days prior to commencing proof rolling. Wet or saturated subgrades shall not be proof-compacted.
3. Excavate unsuitable materials (soft and unstable earth) disclosed by the proof rolling operation and replace with compacted Selected Fill material.
4. Place fill in horizontal layers not exceeding eight inches loose depth and compact layers as specified.

C. Obtain written approval of fill area compaction before excavating for footing.

D. Excavate for footing width plus one foot on each side minimum.

E. Excavate one foot below footing elevations where bottom of footings are two feet or less above or four feet or less below original ground surface.

1. Compact footing bottom and place a one foot bed of select granular material. Compact select granular material in six inch layers.
2. Omit excavation and select granular material below bottom of footings where footing elevations are more than two feet above or more than 4 feet below original ground surface.

3.11 COMPACTION

A. All materials with exception of open graded stone (No. 2 Coarse aggregate, No. 1 Coarse aggregate, Item B-12, etc.):

1. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to

obtain the required densities, but at not less than three percent drier or more than two percent wetter than the optimum content as determined by ASTM D 698 (Standard Proctor) or 1557 (Modified Proctor).

a. Structures (entire area within ten feet outside perimeter): 95 percent.
b. Concrete Slabs and Steps: 95 percent.
c. Landscaped Areas: 90 percent.
d. Pavements and Walks: 95 percent.
e. Pipes and Tunnels: 95 percent.
f. Pipe Bedding: 95 percent.

2. When the existing ground surface to be compacted has a density less than that specified for the particular area classification, break up and pulverize, and moisture condition to facilitate compaction to the required percentage of maximum density to as deep as directed by the Director's Representative.

3. Moisture Control:
   a. Where fill or backfill must be moisture conditioned before compaction, uniformly apply water to the surface and to each layer of fill or backfill. Prevent ponding or other free water on surface subsequent to, and during compaction operations.
   b. Remove and replace, or scarify and air dry, soil that is too wet to permit compaction to specified density. Soil that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing, until moisture content is reduced to a value which will permit compaction to the percentage of maximum density specified.

4. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be recompacted and retested. If compaction cannot be achieved the material/layer will be removed and replaced. No additional material may be placed over a compacted layer until the specified density is achieved.

B. Open graded Stone: Place material in maximum twelve inch lifts. Each lift shall be raked smooth and compacted through several passes of a walk behind vibratory roller. Compaction Testing is not required.

3.12 ROUGH GRADING

A. Interior Grading: Trim unexcavated spaces within the building to levels indicated.

1. Subgrade for Interior Slabs: Compact as specified to receive fill material. Finish subgrade surface within 1/2 inch above or below level specified for fill required.

B. Exterior Grading: Trim and grade area within the Grading Limit Line and excavations outside the limit line, required by this Contract, to a level of 4 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.

1. Slope cut and fill in transition areas, outside of the grading limit line, to meet corresponding levels of existing grades at a slope of 1 vertical to 2 horizontal unless otherwise indicated.

2. Landscaped Areas: Provide uniform subgrade surface within 1 inch of required level to receive topsoil thickness specified. Compact fill as specified to within three inches of subgrade surface. Remove objectionable material detrimental to proper compaction or to placing full depth of topsoil. If the top three inches of subgrade has become compacted before placement of topsoil, harrow or otherwise loosen rough graded surface to receive topsoil to a depth of three inches immediately prior to placing topsoil.

3.13 SUBGRADE SURFACE FOR WALKS AND PAVEMENT

A. Shape and grade subgrade surface as follows:

1. Walks: Shape the surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.
2. Pavements: Shape the surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.

B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

C. Thoroughly compact subgrade surface for walks and pavement by mechanical rolling, tamping, or with vibratory equipment as approved to the density specified.

D. Shoulders: Place shoulders along edges of filled subgrades to prevent lateral movement. Construct shoulders of selected fill material, placed in such quantity to compact to thickness of each subgrade course layer. Compact and roll at least a 2’-0” wide additional layer of each subgrade course.

3.14 FINISH GRADING

A. Uniformly grade rough graded areas within limits of the Grading Limit Line to finish grade elevations indicated.

B. Grade and compact to smooth finished surface within tolerances specified, and to uniform levels or slopes between points where finish elevations are indicated or between such points and existing finished grade.

C. Grade areas adjacent to building lines so as to drain away from structures and to prevent ponding.

D. Finish surfaces free from irregular surface changes, and as follows:

1. Grassed Areas: Finish areas to receive topsoil to within one inch above or below the required subgrade surface elevations.
2. Walks: Place and compact subbase material as specified. Shape surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.

3. Pavements: Place and compact subbase material as specified. Shape surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.

4. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified, and to required subbase elevation. Finish final grades within a tolerance of 1/4 inch when tested with a ten foot straightedge.

5. Surfaces To Receive Vapor Barrier: Provide smooth surfaces graded, tamped and/or rolled, entirely free of obstructions or protruding objects.

E. Spread topsoil directly upon prepared subgrade surface to a depth measuring FOUR inches after natural settlement of the topsoil has occurred in areas to be seeded or to receive sod. Place to greater depth when necessary to adjust grades to required elevations.

1. Approved existing topsoil within the Grading Limit Line may be used. Provide additional topsoil from outside sources as required.

F. Finish topsoil surface free of depressions which will trap water, free of stones over 1 inch in any dimension, and free of debris.

3.15 MAINTENANCE AND RESTORATION

A. Restore grades to indicated levels where settlement or damage due to performance of the Work has occurred. Correct conditions contributing to settlement. Remove and replace improperly placed or poorly compacted fill materials.

B. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.

C. Topsoil and seed or sod damaged lawn areas outside the GLL and new lawn areas inside the GLL. Water as required until physical completion of the Work.

3.16 DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS

A. Remove from State property and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements as per applicable Federal and State code requirements or as directed by the Director’s Representative.

3.17 FIELD QUALITY CONTROL

A. Compaction Testing: Notify the Director’s Representative at least three working days in advance of all phases of filling and backfilling operations. Compaction testing will be performed by the Director’s Representative to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by the Director’s Representative. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be recompacted and will be retested.

No additional material may be placed over a compacted layer until the specified density is achieved.

B. On-Site material to be used as backfill: Material shall be tested to establish the modified proctor value for compaction testing.

3.18 PROTECTION

A. Protect graded areas from traffic and erosion, and keep them free of trash and debris.

END OF SECTION 310000

SECTION 31 10 00 – SITE CLEARING, PREPARATION AND REMOVALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. The following are minimum requirements and shall govern, except that local, state and/or federal codes and ordinances shall govern when their requirements are in excess hereof.

1.2 SUMMARY

A. Furnish labor, materials and equipment necessary to complete site preparation and removal work as shown on the drawings and as specified herein, to include, but not limited to the following:

1. Removing existing trees, shrubs, groundcovers and plants and grass.
2. Clearing and grubbing.
3. Stripping turf areas.
4. Topsoil stripping and removal.
5. Removing above-grade improvements.
6. Temporary erosion and sedimentation control measures.
7. Temporary construction fencing and gates.
8. Removal or dismantling and salvage of site improvements, utility structures or utility lines as indicated on the drawings and as required performing new construction.

B. Requirements for Regulatory Agencies: State and Local code requirements shall control the disposal of trees and shrubs.

C. Standards: Comply with the State Department of Transportation Standards except as otherwise specified herein.

1.3 DEFINITIONS

A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

E. Clearing: Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush and rubbish occurring in the areas to be cleared. Included in clearing shall be selective thinning as defined below.

1. Clearing shall also include the removal and disposal of structures, rocks, boulders, or rock piles that obtrude, encroach upon, or otherwise obstruct the work operations.

F. Grubbing: Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas.

G. Selective Thinning: Selective thinning shall consist of the removing of dead trees, pruning of selected trees and the removal of miscellaneous shrubbery. The areas to be thinned shall be as indicated on drawings.

H. Topsoil: Natural or cultivated, fertile, friable granular soil characteristic of productive soils in vicinity, uniform in texture and composition. Satisfactory topsoil is reasonably clean, free of subsoil, clay lumps, stones, weeds, stumps, roots, toxic substances, and debris or similar substances 1-1/2" or more in greatest dimension.

1.4 MATERIAL OWNERSHIP

A. Except for materials indicated to remain Owner’s property, cleared materials shall become Contractor’s property and shall be removed from Project site.

1.5 SUBMITTALS

A. General: Submit the following in accordance with the General provisions of the contract;

1. Proposed schedule of operations, coordination for shut-off, capping and continuation of utility services as required.

a. Provide a detailed sequence of removal work to ensure uninterrupted progress of Owner's on-site operations.

2. Prior to removal, photograph and/or videotape existing site improvement(s) to remain or to be salvaged. Photographs and/or videotape shall be to the satisfaction of Owner or Owner's representative.
3. Provide an inventory, statement of condition and signed receipt for all materials to remain the property of the Owner. All items to be stored on-site or at a place as designated by the Owner.
4. Obtain permits as required for this work.

B. Shop drawing and or plans for temporary site improvements to include construction fencing with gates, staging areas, haul roads, stockpile area, and truck wash down for review and acceptance by Owner's Representative.

1.6 QUALITY ASSURANCE

A. Codes and Standards: Perform utility work in compliance with applicable requirements of authorities having jurisdiction to include but not be limited to the local municipality in which the work is to be performed.

1.7 PROJECT CONDITIONS AND PROTECTION

A. Utility Locator Service: Notify Dig Safely NY (811) for area where Project is located before site clearing.

B. Existing Utilities: Information on the drawings and survey relating to exiting utility lines and service is from the best sources presently available. Information is furnished for information only and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities. Some underground utility lines may not necessarily show on plans or survey. Additional underground utilities not shown may exist.

C. Locate, protect, and maintain active utilities and site improvements to remain.

1. Contractor to notify utility locator service for where Project is located before site clearing, preparation and removal work.
2. Do not interrupt existing utilities servicing occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.

D. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Ensure safe passage of persons around areas of demolition, removal operations or excavations. Operate warning lights as recommended by authorities having jurisdiction.

E. Traffic: Conduct site clearing, preparation and removal operations to ensure minimum interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities.

1. Do not close or obstruct roads, streets, walks or other occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

F. Perform site preparation work before commencing site construction.

G. Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain. Repair or replace in kind existing improvements damaged during construction as accepted by the Owner.

H. Restore to original grades and conditions, areas adjacent to site disturbed or damaged as a result of site preparation work as acceptable to parties having jurisdiction.

I. Authority for performing indicated clearing, removal and alteration work on property adjoining Owner's property will be obtained by Owner before to award of contract.

1. Do not proceed with work on adjoining property until directed by Owner’s Representative.

J. Salvable improvements: Carefully dismantle and/or remove items indicated to be salvaged and store on Owner's premises where indicated or directed by Owner's Representative.

K. Explosives: Use of explosives will not be permitted.

L. Damages: Promptly repair damages to existing improvements to remain caused by removal operations.

M. Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air. Comply with governing regulations pertaining to environmental protection.

1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

N. Clean roadways daily of mud and debris. Clean adjacent structures and improvements of dust, dirt, and debris caused by removal operations. Return adjacent areas to condition existing prior to start of work.

O. Refer to Division 31 section “Temporary Erosion and Sedimentation Controls” requirements.

1. Do not commence site clearing, preparation, and removals work until temporary erosion and sedimentation control measures are in place.

1.8 DUST CONTROL

A. The Contractor shall implement a dust control program acceptable to the Owner to prevent the off-site migration of particulate matter and/or dust resulting from site removals, excavation and loading. It shall be the Contractor’s responsibility to supervise dust control measures and to monitor airborne particulate matter. The amount of dust shall be controlled to prevent the spread of dust to occupied portions of the site and to avoid creation of a nuisance in the surrounding area.

1. Use of water shall be permitted provided that the misting and/or slurry are controlled at all times and that it is used only as required. Cleanup of water, dust, etc. shall occur continuously in such a manner as to provide a safe work site.
2. Application of water in a controlled manner may include, but not limited to, the following:

a. Pavement surfaces;
b. Equipment and excavation surfaces;
c. During soil excavation, loading and dumping;
d. During topsoil stripping and topsoil spreading;
e. Concrete cutting and breaking.

1.9 COOPERATION

A. Examine drawings and specifications for other contracts to determine nature of proposed construction. Perform work to conform to construction called for in such a manner as not to interfere or delay work of other contractors.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Temporary construction fences and gates: Temporary fences and gates shall be galvanized chain link fencing minimum six (6) feet in height.

1. Contractor may use used chain link fence mesh, posts & rails if in good, serviceable condition.
2. Steel Fabric: Comply with Chain Link Fence Manufacturers Institute manual. Fabric shall be 2" mesh size, 9 gauge wire with both salvages knuckled.
3. Galvanized Steel Finish: ASTM A 392, Class 2, with not less than 2.0 oz. zinc per sq. ft. of uncoated wire surface on wire coated before weaving, or not less than 2.0 oz. zinc per sq. ft. of uncoated wire surface on wire of fabric coated after weaving, as determined from the average of two or more samples and not less than 1.8 oz. zinc per sq. ft. of uncoated wire surface for any individual sample.
4. Framing: Comply with CLMFI product manual industrial steel guide for fence posts and gates. End, corner and pull posts shall be 2.375 inch O.D. Type I steel pipe. Line posts shall be 1.9 inch O.D. Type I steel pipe. Pipe shall be hot dipped galvanized steel pipe conforming to ASTM F 1083, plain ends, and standard weight (Schedule 40) with no less than 1.8 oz. zinc per sq. ft. of surface area coated. Provide tension wire top and bottom per CLMFI product manual - heavy duty as recommended for industrial usage. All gate posts shall be 4" O.D. Type I steel posts. Provide post caps. Provide two leaf swing gates at all temporary gate locations per CLMFI product manual as recommended for industrial usage.
5. Fittings and accessories:

    a. Material: Comply with ASTM F 626. Mill-finished aluminum or galvanized iron or steel, to suit manufacturer's standards.
    b. Zinc Coating: Unless specified otherwise, galvanize steel fence fittings and accessories in accordance with ASTM A 153, with zinc weights per Table I.

6. Tension Wire: (Top and bottom of chain link fabric) 0.177 inch diameter metallic-coated steel marcelled tension wire conforming to ASTM A 824 with finish to match fabric.

    a. Type II Zinc Coated in following class:

        1) Class 3, with a minimum coating weight of 2.0 oz. per sq. ft. of uncoated wire surface.

7. Tie Wires: 12-gage (0.106 inch diameter) galvanized steel with a minimum of 0.80 oz. per sq. ft. of zinc coating of surface area in accordance with ASTM A 641, Class 3 or 9-gage (0.106 inch diameter) aluminum wire alloy 1100-H14 or equal, to match fabric core material.

PART 3 - EXECUTION

3.1 PREPARATION

A. **Employ a licensed surveyor to stake out both horizontal and vertical control for all work prior to commencing any work operations.** Accurately locate and maintain locations of all buildings, roads, paved areas, features, etc. Advise Owner's Representative of discrepancies, prior to commencing work.

1. Maintain benchmarks, monuments and other reference points. Reestablish benchmarks if disturbed or destroyed at no cost to Owner.

B. Locate and clearly identify trees, shrubs, and other vegetation to remain. Flag each tree trunk at the diameter at breast height (DBH) (tree diameter at 54-inches above the ground).

C. Do not remove any trees until the project has been adequately staked. Notify Owner's Representative upon completion of staking so that he may determine if there are to be changes in the clearing work.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls upon project completion and restore and stabilize areas disturbed during removal.

3.3 CLEARING

A. Locate and suitably identify trees, wetland, stream areas, and improvements indicated to remain.

B. Clear areas within contract limits as required for site access and execution of the work. Unless otherwise indicated, remove promptly from site and legally dispose of trees, logs, stumps, brush, vegetation, rubbish, stones boulders, and other objectionable or perishable materials within contract limits.

C. Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface. Trees and vegetation indicated to remain within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an acceptable tree-wound paint.

3.4 GRUBBING

A. Grubbing: Grubbing shall include grinding of stumps, together with logs and other organic material.

B. Depressions made by clearing and grubbing shall be filled with suitable soil material unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding 8-inch loose depth and compact each layer to a density equal to adjacent original ground and to make the surface conform to the original adjacent surface of the ground, unless noted otherwise.

C. Remove trees, plants, undergrowth, other vegetation, and debris, except items indicated to remain. Use only hand methods for grubbing inside drip line of trees indicated to be left standing.

3.5 TREE AND PLANT PROTECTION

A. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Owner’s Representative.

3.6 TOPSOIL STRIPPING

A. Contractor to verify depth of topsoil within contract limit lines prior to submitting bid.

B. Strip topsoil to its full depth at building areas, and all areas to be regraded, resurfaced, or paved within contract limit work area in a manner to prevent intermingling with underlying subsoil or other waste materials.

C. Where tree protection zones are indicated, stop topsoil stripping a sufficient distance away to prevent damage to main root systems.

D. Remove all stripped topsoil from the site, do not stockpile. Protect all areas that are not to be resurfaced or regraded, and adjacent areas outside of the contract limits from damage due to site preparation work.

E. Prevent intermingling with underlying subsoil or other objectionable material. Quality of materials and extent of area must be verified and accepted by Owner's Representative.

3.7 REMOVAL OF EXISTING SITE IMPROVEMENTS

A. General: Use such methods as required to complete work within limitations of governing regulations and applicable OSHA standards.

B. Below-grade construction: Remove foundation walls of building(s), retaining walls footings, small structures, etc. including any concrete slabs in their entirety.

1. Excavations made by removal of below-grade construction shall be backfilled with structural fill to proposed subgrade and compacted unless otherwise directed by geotechnical engineer.

C. Remove existing above and below grade site improvements within contract limits as indicated.

D. Remove existing sidewalks, curbs, and paving, including all base material to subgrade, as required to accommodate new construction, as shown on drawings. Cut existing sidewalks, curbs, and paving in neat, straight lines to provide uniform, even transition from new to adjacent existing work. Cut back existing paving a sufficient distance to permit forming and installation of new work.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

3.8 EXISTING UTILITIES

A. Perform work and provide necessary materials to disconnect or relocate existing utilities as indicated. Record existing utility termination points before disconnecting.

1. Raise or lower existing utility structures such as junction boxes, valve boxes, and manholes to accommodate new grade elevations at paved and lawn areas where indicated on drawings. Extend structures as required. Reuse existing junction box, valve frames and covers, unless noted otherwise.
2. Fill abandoned piping with an 8" thick concrete plug or mortar jointed masonry bulkhead.
3. Remove abandoned utility poles within contract limits.
4. Relocate and reinstall designated utility poles. Coordinate and perform the work in accordance with the applicable utility company requirements.
5. Coordinate utility work with work performed under Divisions 15 and 16.

B. Excavate for and remove underground utilities indicated to be removed.

3.9 INSTALLATION/PLACEMENT OF PRODUCTS/MATERIALS

A. Temporary construction fences and gates: Install fencing and gates per manufacturer instructions and the Chain Link Manufacturers Institute standards. Tension wire at top and bottom of temporary fence fabric is required.

B. Traffic control devices: Install per NYSDOT standard specifications and the NYSDOT manual or uniform traffic control devices.

C. Project sign: Install per Division 1, “Temporary Facilities and Controls” requirements.

3.10 SALVAGED MATERIALS

A. General: Carefully remove materials to be salvaged to avoid damage. All items to be removed and salvaged are to remain the property of the Owner. The Contractor will deliver these items to storage areas as indicated or as directed by the Owner or Owner's representative.

B. Except for items indicated to be retained as the Owner's property, other removed and salvaged materials, items and equipment not indicated for reuse or relocation shall become the Contractor's property and removed from site with further disposition at Contractor's option. Remove cleared materials from the site as the work progresses. Storage and sale of Contractor's salvage items on

site is not permitted.

3.11 DISPOSAL OF WASTE MATERIALS

A. Stockpile, haul from site, and legally dispose of waste materials, rubbish and debris on a weekly basis. Accumulation is not permitted.

B. Maintain disposal routes clear, clean, and free of debris.

3.12 CLEANING

A. Upon completion of site preparation work, clean areas within contract limits, remove tools, and equipment. Provide site clear, clean, and free of materials and debris and suitable for site work operations.

3.13 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project's Waste Management Plan.

END OF SECTION 311000

SECTION 31 20 00 – EARTH MOVING - SITE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Geotechnical Engineering Investigation, Proposed 631 Northland Redevelopment, 631 Northland Avenue, Buffalo, New York, prepared by Ravi Engineering & Land Surveying, P.C., dated June 2024

1.2 SUMMARY

A. Section Includes:

1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for walks, pavements, turf and grasses, and plants.
3. Subbase course for concrete walks and pavements.
4. Subbase course and base course for asphalt paving.
5. Subsurface drainage backfill for walls and trenches.
6. Excavating and backfilling trenches for utilities and pits for buried utility structures.

B. Related Requirements:

1. Divisions 21, 22, 23, 26, 27, 28, and 33 Sections for installing underground mechanical and electrical utilities and buried mechanical and electrical structures.
2. Section 311000 " Site Clearing, Preparation & Removals" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
3. Section 312319 “Dewatering” for management of surface water and ground water within excavations.
4. Section 329300 "Plants" for finish grading in planting areas and tree and shrub pit excavation and planting.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill as determined by the geotechnical engineer.

E. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Owner's Testing Agency Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Owner's Testing Agency Unauthorized excavation, as well as remedial work directed by Owner's Testing Agency, shall be without additional compensation.

F. Fill: Soil materials used to raise existing grades as determined by the geotechnical engineer.

G. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cu. yd. or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by a geotechnical testing agency, according to ASTM D1586.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct pre-excavation conference at Project site.

1. Review methods and procedures related to earthmoving, including, but not limited to, the following:

a. Personnel and equipment needed to make progress and avoid delays.
b. Coordination of Work and equipment movement with the locations of tree- and plant-protection zones.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of the following manufactured products required:

1. Geotextiles.
2. Controlled low-strength material, including design mixture.
3. Warning tapes.

1.6 INFORMATIONAL SUBMITTALS

A. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:

1. Classification according to ASTM D 2487.
2. Moisture Content (ASTM D-2216) – 1 test per 4,000 cubic yards or no less than 2 tests per each material type.
3. Grain Size Analysis (ASTM D-422) - 1 test per 4,000 cubic yards or no less than 2 tests per each material type.
4. Liquid and Plastic Limits (ASTM D-4318) - 1 test per 4,000 cubic yards or no less than 2 tests per each material type. Liquid and Plastic Limit testing is necessary only if appropriate, based on material composition (i.e. clayey or silty soils).
5. Modified Proctor Moisture Density Relationship (ASTM D-1557) - 1 test per 4,000 cubic yards or no less than 1 test per each material type. A maximum/minimum density relationship (ASTM D-4253 and ASTM D-4254) may be an appropriate substitute for ASTM D-1557 depending on material gradation

B. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth-moving operations. Submit before earth moving begins.

1.7 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

1.8 FIELD CONDITIONS

A. Existing Utilities: Do not interrupt utilities servicing facilities occupied by Owner or others unless permitted in writing by Owner and then only after arranging to provide temporary utility services according to requirements indicated.

B. Notify Owner not less than two days in advance of proposed utility interruptions.

C. Do not proceed with utility interruptions without Owner’s written permission.

D. Utility Locator Service: Notify utility locator service Dig Safely NY (811) for area where Project is located before beginning earth moving operations.

E. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

F. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

G. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 312500 "Temporary Erosion and Sediment Controls" are in place.

H. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

I. Do not direct vehicle or equipment exhaust towards protection zones.

J. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D2487, or a combination of these groups unless otherwise approved by the engineer.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Crusher run stone, free of clay, organics and friable or deleterious particles. Material shall comply with NYSDOT Item 304.12, latest revision, Type 2. Slag not permitted

E. Bedding Course: Comply with NYSDOT Table 703-4, latest revision, size designation 1A. Slag not permitted.

F. Drainage Material: Comply with NYSDOT Table 703-4, latest revision, size designation 1. Slag is not permitted.

G. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

H. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.

I. Concrete Sand: Comply with NYSDOT Item 703-07, latest revision. Slag not permitted.

J. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.

K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

L. Structural Fill: Crusher run stone, free of clay, organics and friable or deleterious particles. Material shall comply with NYSDOT Item 304.12, latest revision, Type 2. Slag not permitted.

2.2 GEOTEXTILES

A. Separation Geotextile Fabric: Non-woven needle-punched geotextile drainage fabric composed of biologically inert polypropylene fibers and having a random, three dimensional pore structure.

1. Grab Tensile Strength: 157 lbf. - ASTM D 4632.
2. CBR Puncture Strength: 310 lbs. – ASTM D 6241.
3. Trapezoid Tear Strength: 56 lbs. - ASTM D 4533.
4. UV Resistance (at 500 hours): 50% strength retained- ASTM D 4355.
5. Apparent Opening Size (AOS): Sieve No. 70 - ASTM D 4751.
6. Available Products: Subject to compliance with requirements, products that may be incorporated in the work, include, but are not limited to, the following or approved equal:

    a. Mirafi® 160N; TC Mirafi® ,365 South Holland Drive, Pendergrass, Georgia 30567, (888) 795-0808.
    b. TerraTex N06, Hanes Geo Components™, Winston-Salem, NC 27101, (706) 693-2226.

B. Soil Stabilization Fabric (for use under pavement subbase or base course): Woven geotextile soil stabilization fabric composed of polypropylene monofilament, which is non-biodegradable and resistant to most soil chemicals.

1. Grab Tensile Strength: 295 lbf. - ASTM D4632.

2. Grab Elongation: maximum of 35% - ASTM D4632.
3. Mullen Burst Strength: 375 psi - ASTM D3786.
4. Water Permeability Coefficient (K): 4 gpm per sq. ft. – ASTM D4491.
5. Puncture Resistance: 90 lbf. - ASTM D4833.
6. Trapezoid Tear Strength: 130 lbs. - ASTM D4533.
7. UV Resistance: 70% - ASTM D4355.
8. Apparent Opening Size: No. 30 – ASTM D4751.
9. Available Products: Subject to compliance with requirements, products that may be incorporated in the work, include, but are not limited to, the following or approved equal:

    a. Mirafi® HP270; TC Mirafi® ,365 South Holland Drive, Pendergrass, Georgia 30567, (888) 795-0808.
    b. TerraTex GS; Hans Geo Components™, Winston-Salem, NC 27101, (336) 747-1600.
    c. Supac 4WS; Phillips Fibers Corp

2.3 CONTROLLED LOW-STRENGTH MATERIAL

A. Controlled Low-Strength Material: Self-compacting, low-density, flowable concrete material produced from the following:

1. Portland Cement: ASTM C150, Type I Type II or Type III.
2. Fly Ash: ASTM C618, Class C or F.
3. Normal-Weight Aggregate: ASTM C33.
4. Foaming Agent: ASTM C869.
5. Water: ASTM C94.
6. Air-Entraining Admixture: ASTM C260.

B. Produce conventional-weight, controlled low-strength material with 150-psi compressive strength when tested according to ASTM C495.

2.4 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.

B. Protect and maintain erosion and sedimentation controls during earth-moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 EXPLOSIVES

A. Explosives: Do not use explosives.

3.3 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:

    a. 24 inches outside of concrete forms other than at footings.
    b. 12 inches outside of concrete forms at footings.
    c. 6 inches outside of minimum required dimensions of concrete cast against grade.
    d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
    e. 6 inches beneath bottom of concrete slabs-on-grade.
    f. 6 inches beneath pipe in trenches and the greater of 24 inches wider than pipe or 42 inches wide.

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.

1. Clearance: 12 inches each side of pipe or conduit or as indicated on plan.

C. Trench Bottoms: Excavate trenches 6 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

D. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.6 SUBGRADE INSPECTION

A. Notify Owner’s Testing Agency when excavations have reached required subgrade.

B. If Owner’s Testing Agency determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Proof-roll subgrade below the pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 10 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.
2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Owner’s Testing Agency, and replace with compacted engineered fill as directed.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Owner’s Testing Agency, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation as directed by Owner’s Testing Agency.

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring, bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.10 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Roadways: Provide 4-inch-thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course.

D. Backfill voids with satisfactory soil while removing shoring and bracing.

E. Initial Backfill:

1. Soil Backfill: Place and compact initial backfill to a height of 12 inches over the pipe or conduit.

a. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

2. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.

F. Final Backfill:

1. Soil Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.

G. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.11 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.12 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D1557:

1. Under walks and pavements, compact each layer of backfill or fill soil material at 95 percent.

2. Under turf or unpaved areas, compact each layer of backfill or fill soil material at 85 percent.
3. For utility trenches, compact each layer of initial and final backfill soil material at 92 percent.
4. In areas adjacent to existing structures, care should be taken during placement and compaction to limit damage. This includes using hand equipment such as shovels and rakes for placement and plate tampers or jumping jacks and restricted use of vibratory rollers.

3.14 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:

1. Turf or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

3.15 SUBSURFACE DRAINAGE

A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches of filter material, placed in compacted layers 6 inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches.

1. Compact each filter material layer with a minimum of two passes of a plate-type vibratory compactor.

B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.

1. Compact each filter material layer with a minimum of two passes of a plate-type vibratory compactor.

3.16 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
2. Place base course material over subbase course under hot-mix asphalt pavement.
3. Shape subbase course and base course to required crown elevations and cross-slope grades.
4. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
5. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
6. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D1557. The contractor shall exercise caution with vibratory compaction at any areas near the existing structures.

3.17 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
2. Determine that fill material classification and maximum lift thickness comply with requirements.
3. Determine, during placement and compaction, that in-place density of compacted fill complies with requirements.

B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

C. Testing to follow the recommendations made in the Geotechnical Engineering Report dated November 2018 included within the Project Manual along with the requirements noted below.

D. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

E. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Owner’s Testing Agency.

F. Testing agency will test compaction of soils in place according to ASTM D1556, ASTM D2167, ASTM D2937, and ASTM D6938, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved Areas: At least one test per 10,000 square feet per lift, but in no case fewer than three tests per lift.
2. Trench Backfill: At least one test per 200 lineal feet per lift, but no fewer than two tests per lift.
3. Backfilling Isolated Excavations (manholes, etc.): At least one test per lift.

G. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Owner’s Testing Agency; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 312000- EARTHWORK FOR STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Preparing subgrades for slabs-on-grade
   2. Excavating and backfilling for buildings and structures.
   3. Drainage course for concrete slabs-on-grade.
   4. Subsurface drainage backfill for walls and trenches.

B. Related Sections:
   1. Section 033000 "Cast-in-Place Concrete" for granular course if placed over vapor retarder and beneath the slab-on-grade.
   2. Section 024119 “Selective Structure Demolition” for removal of existing slab on grade, walls, footings and other structural elements encountered during removal of existing subbase material.
   3. Section 310000 “Earthwork”

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

B. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench.

C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

D. Excavation: Removal of material encountered above subgrade elevations.
   1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized excavation and replacement material will be paid for according to Contract provisions for unit prices.
   2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.

E. Fill: Soil materials used to raise existing grades.

F. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cu. yd. or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by a geotechnical testing agency, according to ASTM D 1586.

G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

H. Subbase Course: Aggregate layer placed between the subgrade and a cement concrete slab.

I. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Material Test Reports: For each soil material proposed for fill and backfill as follows:
1. Classification according to ASTM D 2487.

1.5 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

1.6 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
3. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. Utility Locator Service: Notify utility locator service for private and public utilities in area where Project is located before beginning earth moving operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Select Structural Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; conforming to NYS DOT Item 304-2.02 TYPE 1 or 2.

E. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel;

ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

2.2 CONTROLLED LOW-STRENGTH MATERIAL

A. Controlled Low-Strength Material: Self-compacting, flowable concrete material produced from the following:
   1. Portland Cement: ASTM C 150, Type I/II.
   2. Fly Ash: ASTM C 618, Class F.
   3. Normal-Weight Aggregate: ASTM C 33, 3/8-inch nominal maximum aggregate size.
   4. Water: ASTM C 94/C 94M.
   5. Air-Entraining Admixture: ASTM C 260.

B. Compressive Strength: 100psi, when tested according to ASTM C 495

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
   1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXPLOSIVES

A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Following approval of Owner’s site representative. Unclassified excavated materials may include rock, soil materials, and obstructions. No utilities or pipes shall be excavated or removed. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
   1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
   2. Remove rock to lines and grades indicated to permit installation of permanent construction.

3.5 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1/2 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
   1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

3.6 SUBGRADE INSPECTION

A. Notify Owner's Site Representative when excavations have reached required subgrade.

B. If Owner's Site Representative determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices.

D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.7 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials off-site without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
   1. Stockpile soil materials off-site and away from edge of excavations. Do not store within drip line of remaining trees.

3.8 PLACING FILL AND BACKFILL

A. Surface preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Remove all asphalt pavement in its entirety from areas requiring the placement of fill. Prior to placement of fill, smooth out and compact areas where wheel rutting has occurred due to stripping or earthwork operations.

B. Existing pavement, concrete, or other debris shall be removed in its entirety from beneath areas requiring fill placement.

C. Place and compact backfill in excavations promptly, but not before completing the following:
   1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
   2. Testing and inspecting underground utilities.
   3. Removing concrete formwork.
   4. Removing trash and debris.
   5. Removing temporary shoring and bracing, and sheeting.
   6. Installing permanent or temporary horizontal bracing on horizontally supported walls.

D. Place backfill on subgrades free of mud, frost, snow, or ice.

3.9 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
   1. Where fill or backfill must be moisture conditioned before compaction, uniformly apply water to the surface and to each layer of fill or backfill. Prevent ponding or other free water on surface subsequent to, and during compaction operations.
   2. Remove and replace, or scarify and air dry, soil that is too wet to permit compaction to specified density. Soil that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, and pulverizing, until moisture content is reduced to a value which will permit compaction to the percentage of maximum density specified.
   3. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
   4. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.10 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 9 inches or less, in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557.
   1. Structures (entire area within two feet outside perimeter or area of work): 95 percent.

D. When the existing ground surface to be compacted has a density less than that specified for the particular area classification, break up and pulverize, and moisture condition to facilitate compaction to the required percentage of maximum density to as deep as directed by the Geotechnical Engineer.

E. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be recompacted and retested. If compaction cannot be achieved the material/layer will be removed and replaced. No additional material may be placed over a compacted layer until the specified density is achieved.

3.11 SETTLEMENT DETECTION

A. Excavating beneath the bearing grades of an existing structure: Establish a settlement detection method approved by the Director's Representative for structures subject to settlement from excavation, sheeting, or sheet piling operations. Maintain surveillance to detect any settlement.

B. Surcharging: Establish a settlement monitoring plan to accurately determine the settlements that have occurred and the rate that they occur to adequately determine when settlement caused by surcharge is complete.

3.12 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
   1. Provide a smooth transition between adjacent existing grades and new grades.
   2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.13 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

A. Place drainage course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
   1. Install subdrainage geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
   2. Place drainage course 6 inches or less in compacted thickness in a single layer.
   3. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

3.14 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
   1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
   2. Determine that fill material and maximum lift thickness comply with requirements.
   3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.

B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 6938, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
   1. Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of building slab, but in no case fewer than three tests.

E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.15 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
   1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
   1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.16 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

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END OF SECTION 312000

SECTION 31 23 19 – DEWATERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes construction dewatering.

B. Related Requirements:

1. Section 312000 "Earth Moving - Site" for excavating, backfilling, site grading, and controlling surface-water runoff and ponding.

1.3 ALLOWANCES

A. Dewatering observation wells are part of dewatering allowance.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Verify availability of Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review condition of site to be dewatered including coordination with temporary erosion-control measures and temporary controls and protections.
3. Review geotechnical report.
4. Review proposed site clearing and excavations.
5. Review existing utilities and subsurface conditions.
6. Review observation and monitoring of dewatering system.

1.5 ACTION SUBMITTALS

A. Shop Drawings: For dewatering system, prepared by or under the supervision of a qualified professional engineer.

1. Include plans, elevations, sections, and details. The plan should include the location of the sumps in the excavation.

2. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, and discharge lines; and means of discharge, control

of sediment, and disposal of water.

3. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.
4. Include written plan for dewatering operations including sequence of well and well-point placement coordinated with excavation shoring and bracings and control procedures to be adopted if dewatering problems arise.
5. Submit a plan showing locations of stormwater and groundwater discharge into the City of Buffalo sewer system. Apply and obtain a permit to allowing discharge and provide a copy to the Owner.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, land surveyor, and professional engineer.

B. Field quality-control reports.

C. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by dewatering operations. Submit before Work begins.

D. Record Drawings: Identify locations and depths of capped wells and well points and other abandoned-in-place dewatering equipment.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer that has specialized in design of dewatering systems and dewatering work.

1.8 FIELD CONDITIONS

A. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from this data.
   1. The geotechnical report is included elsewhere in Project Manual.

B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain

dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.

1. Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer licensed to practice in New York State with at least 10 years of experience in the design of construction dewatering systems.
2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, prevention of flooding in excavation, and prevention of damage to subgrades and permanent structures.
3. Prevent surface water from entering excavations by grading, dikes, or other means.
4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
5. Remove dewatering system when no longer required for construction.

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with water- and debris-disposal regulations of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.

1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site or surrounding area.
2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

C. Provide temporary grading to facilitate dewatering and control of surface water.

D. Protect and maintain temporary erosion and sedimentation controls during dewatering operations.

3.2 INSTALLATION

A. Install dewatering system utilizing wells, well points, sumps, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances,

water disposal, and surface-water controls.

1. Space well points or wells at intervals required to provide sufficient dewatering.
2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.

B. Place dewatering system into operation to lower water to specified levels before excavating below ground-water level.

C. Provide sumps, sedimentation tanks, and other flow-control devices as required by the Buffalo Sewer Authority.

D. Provide standby equipment on-site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails.

3.3 OPERATION

A. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.

B. Operate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.

1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
2. Maintain piezometric water level a minimum of 36 inches below bottom of excavation.

C. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a legal manner that avoids inconvenience to others and in accordance with the requirements of the Buffalo Sewer Authority and New York State Standards and Specifications for Erosion and Sediment Control.

3.4 FIELD QUALITY CONTROL

A. Survey-Work Benchmarks: Resurvey benchmarks regularly during dewatering and maintain an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

B. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.

C. Prepare reports of observations.

3.5 PROTECTION

A. Protect and maintain dewatering system during dewatering operations.

B. Promptly repair damages to adjacent facilities caused by dewatering.

END OF SECTION 312319

SECTION 31 25 00 – TEMPORARY EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work shall consist of furnishing, installing, inspecting, maintaining, and removing soil erosion and sediment control measures as shown on the contract documents or as ordered by the Engineer during the life of the contract to provide soil erosion and sediment control. This work shall be coordinated with the soil erosion and sediment control features specified elsewhere in the contract documents to the extent practical to assure effective and continuous soil erosion and sediment control throughout the construction and post construction period.

1. Erosion Control: See 1.2.A, for the definition of Erosion Control. The following items of work are provided in this section to address soil erosion control - mulch, straw/wood fiber mulch, seed and mulch, seed and straw/wood fiber mulch, all classes and types of rolled erosion control products, and soil stabilizers. Other items may be provided in the contract documents to provide soil erosion control (e.g., turf establishment, bank and channel protection, etc.).
2. Sediment Control: Sediment control is any action taken or item used as part of a project or as a separate action to minimize suspended solid material transport by water. The following items of work are provided in this section to address sediment control - silt fence, check dam, inlet protection.

B. Related work specified elsewhere:

1. Section 312000 – Earth Moving - Site.
2. Section 312319 – Dewatering.

1.2 DEFINITIONS

A. Erosion Control: Erosion control is any action taken or item used as part of a project or as a separate action to minimize the destructive effects of wind and water on surface soil. The use and placement of berms and dams, fiber mats, grasses, sod, mulches, slope drains, sediment basins and drainage systems may be temporary and used throughout construction, or permanent and installed for the anticipated life of the facility.

B. NYSDEC – New York State Department of Environmental Conservation.

C. SPDES – State Pollutant Discharge Elimination System.

D. MS4 – Means a city, town or village with land use control authority that is required to gain coverage under NYSDEC’s SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

E. SWPPP – Storm Water Pollution Prevention Plan.

F. General Permit – SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-25-001).

G. Qualified Inspector – Means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hour of training every three (3) years.

It can also mean a person the meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

H. Qualified Professional – Means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

I. Trained Contractor – Means an employee from the contracting (construction) company, identified in Part III.A.6 of the General Permit, that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., of the General Permit, that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other

Department endorsed entity).

The *trained contractor* will be responsible for the day to day implementation of the SWPPP.

1.3 QUALITY ASSURANCE

A. Referenced Standards:

1. New York State Standards and Specifications for Erosion and Sediment Control, Soil and Water Conservation Society, Empire State Chapter, latest revision.
2. New York State Department of Transportation Standard Specifications (NYSDOTSS) Section 209, latest revision.
3. City of Buffalo Unified Development Ordinance (Green Code).

1.4 REGULATORY REQUIREMENTS

A. Comply with requirements of the SWPPP as required by the General Permit.

B. Comply with requirements and standards of local Municipality, County and local Soil and Water Conservation District.

1.5 CONTRACTOR'S RESPONSIBILITIES

A. Site Inspections:

1. Following the commencement of construction, site inspections shall be conducted by a Qualified Inspector at least once every seven (7) calendar days. If the project has been authorized to disturb greater than 5-acres of soil at any one time, the Qualified Inspector shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) site inspections must be separated by a minimum of two (2) full calendar days. During each inspection, the Qualified Inspector shall record the following information:

    a. Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example, 10 percent, 20 percent, and 50 percent).
    b. Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
    c. All deficiencies that are identified with the implementation of the Erosion Control Plan.

2. The Contractor shall maintain a record of all inspection reports in a site log book. The site log book shall be maintained on site and be made available to the Engineer, MS4,

and/or NYSDEC and other permitting authority upon request.

B. Stabilization: The Contractor shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

1. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded far by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
2. Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures need not be initiated on that portion of the site.

C. Maintenance: Sediment shall be removed from sediment trapping practices whenever their capacity has been reduced by fifty (50) percent from the design capacity.

D. Duty to Mitigate: The Contractor and its subcontractors shall take all reasonable steps to minimize or prevent erosion and sedimentation.

E. Proper Operation and Maintenance: The Contractor shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Contractor to minimize or prevent erosion and sedimentation.

1.6 COOPERATION

A. Examine drawings and specifications for other contracts, to determine nature of proposed construction. Perform work to conform to construction called for in such a manner as not to interfere or delay work of other Contractors.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Unless otherwise stated elsewhere in the contract documents, materials shall be as stated herein.

B. Mulch: Mulch shall be in conformance with NYSDOTSS §713-18 Hay, §713-19 Straw, or §713-11 Wood Fiber Mulch.

C. Temporary Seed: Seed shall be ryegrasses (annual or perennial) or cereal grasses suitable to the area and as a temporary cover which will not compete with the grasses sown later for permanent cover.

D. Stone Filling: Stone filling shall meet the requirements of NYSDOTSS §620-2.02 Stone Filling, light.

E. Geotextile: Geotextiles shall meet the requirements of NYSDOTSS §207-2 Materials. UV sensitive geotextiles shall be protected from exposure to sunlight during transport and storage.

F. Silt fence:

1. Posts: 1” galvanized steel channel post, “T” post or 1-1/4" nominal square hardwood stake of sound quality.
2. Fence: Minimum 14.5 gage, with maximum 6-inch mesh opening.
3. Geotextile Fabric: “Mirafi 100X” as manufactured by TC Mirafi, Pendergrass, GA 30567, 1-888-795-0808 or acceptable equivalent.

G. Prefabricated Siltfence: “Mirafi Envirofence” as manufactured by TC Mirafi, Pendergrass, GA 30567, 1-888-795-0808; “AEF Pre-assembled Silt Fence” as manufactured by American Engineering Fabrics, Inc., Bridgewater, MA, 02324, 1-800-770-2666 or acceptable equivalent.

H. Gravel Bag: Bags shall be fabricated from reinforced woven geotextile and shall include ties. No burlap bags shall be allowed. Coarse aggregate shall meet the gradation requirements of size designation #1 or #2 of NYSDOTSS Table 703-4 and shall be used as the fill material. Each gravel bag shall be individually tied and double bagged. The bag with fill material shall be inversely inserted into the second bag in order to prevent leakage.

I. Sand Bag: Sand bags shall meet the requirements of NYSDOTSS §209-2.09 Gravel Bag except that sand meeting the gradation requirements of NYSDOTSS §703-06 Cushion Sand shall be used as the fill material.

J. Rolled Erosion Control Products and Soil Stabilizers: These materials shall meet the requirements of NYSDOTSS §713-07 Jute Mesh or Other Approved Erosion Control Materials and shall be of the Type and Class specified in the contract documents.

K. Stabilized Construction Entrance: Construction entrances shall consist of a geotextile, crushed stone or gravel and, if necessary, a drainage pipe to maintain ditch flow

1. Geotextile: Geotextile shall meet the requirements of NYSDOTSS §207-2 Materials, Geotextile Stabilization, Strength Class 1.
2. Crushed Stone or Gravel: Crushed stone or gravel shall be 150 mm of coarse aggregate material meeting the gradation requirements of size designation #3 on NYSDOTSS Table 703-4.
3. Drainage Pipe: The Contractor shall provide a drainage pipe sized with sufficient capacity to carry ditch flow. The pipe dimension shall be consistent with the modified soil erosion and sediment control plan approved by the Engineer. The drainage pipe may consist of new or used material in satisfactory condition and suitable for the intended use. The Engineer will reject any materials determined to be unsatisfactory.

L. Temporary Pipe Inlet/Outlet Protection: The materials used shall be as indicated on the standard sheets.

PART 3 - EXECUTION

3.1 GENERAL

A. In the event of conflict between these specification requirements and pollution control laws, rules, regulations or permit conditions by other federal or state or local government agencies, the more restrictive laws, rules or regulations shall apply.

B. All work done under this section shall be performed consistent with NYSDOTSS §107-12 Water Quality Protection and included as part of the construction schedule submitted by the Contractor under contract General and Supplemental provisions for start and progress of work. The Contractor's schedules and methods shall be consistent with the soil erosion and sediment control plan included in the contract documents or the modified plan approved by the Engineer. The Contractor shall begin earthwork only after receiving written approval from the Engineer for the scheduling of earthwork and work covered under this section.

C. The Contractor shall designate to the Engineer an erosion and sediment control supervisor who is a Trained Contractor with adequate experience and authority to implement and maintain all erosion and sediment control measures.

D. Perimeter sediment controls shall be installed prior to performing grubbing, excavation, and borrow or fill operations. The Contractor shall limit the area of clearing and grubbing, excavation, borrow and embankment operations in progress, commensurate with their capability and progress in keeping the finish grading, mulching, seeding and other temporary and/or permanent control measures current in accordance with the approved schedule. Under no condition shall earth material exposed by grubbing, excavation, borrow or fill or other work be left without application of temporary or permanent erosion controls for a period of greater than 7 days. The Engineer may determine that a potential for erosion or sediment transport exists and order the Contractor to install temporary erosion controls earlier. When permanent soil erosion and sediment control measures cannot be installed due to seasonal or other limitations, temporary soil erosion and sediment control measures shall be installed. Prior to removing or disturbing any erosion or sediment control measure that may be required to be reestablished due to continual grading operations, the Contractor shall verify the proposed progression of operations and the reestablishment of control measures with the Engineer to ensure the continuity of erosion and sediment control.

E. Sediment control measures shall not be removed without the Engineer’s approval.

F. No deviation from the specifications will be allowed without the written approval of the Owner’s Representative.

G. All earth berms and embankments are to be mulched and seeded within seven (7) calendar days after grading. All soil stockpiles are to be mulched and seeded within fourteen (14) calendar days after grading.

H. No slope shall be greater than 3:1 unless approved by the design engineer and stabilized with slope appropriate controls as directed by the engineer (erosion control blankets, etc.).

I. Stumps and brush may not be buried.

J. No deviation from the specifications will be allowed without the written approval of the Owner’s Representative.

K. Installation of all erosion and sediment control practices to be in accordance with the current SWPPP and construction drawings (erosion and sediment control plans, notes, and details).

3.2 INSPECTION AND MAINTENANCE

A. Soil erosion and sediment control measures shall be inspected and maintained by the Contractor during the life of the project, including winter shutdown, etc. Such inspection and maintenance shall continue until after the permanent stabilization measures are in place and the temporary control measures are ordered to be removed by the Engineer. The remaining disturbed area shall be permanently stabilized as indicated in the contract documents.

B. All temporary controls shall be inspected by the Contractor at least every seven calendar days, after each rainfall of 1/2-inch (12 mm) or more within a 12 hour period, or daily during prolonged rainfall to determine if the measure is functioning as intended. All inspections shall be completed within one calendar day.

C. Within 3 calendar days from completion of the inspection, the Contractor shall:

1. Repair or rebuild the control measure to function as originally intended.
2. Remove sediment deposition which reaches one half the height of the control measure. All sediment deposits shall be considered unsuitable material and disposed of in accordance with NYSDOTSS §203-3.08, *Disposal of Surplus Excavated Materials*. Material shall be disposed of away from wetlands, water courses or other bodies of water.

D. Torn or punctured silt fence fabric may be repaired by the placement of a patch, on the upstream side, consisting of an additional layer of fabric over the damaged area, or replacement of the damaged section.

E. Where erosion control materials have been used on final grade that have been permanently seeded, the Contractor shall care for the areas until acceptance of the Contract or acceptance of the turf, whichever is later. Where necessary, such care may include, but is not limited to providing warning signs or barricades for protection against traffic. Any surfaces that have settled, become gullied, or otherwise damaged due to the Contractor's operations shall be repaired at no additional expense to the state to reestablish the grade and soil conditions that existed prior to placing erosion control materials.

3.3 TEMPORARY MULCH

A. The Contractor shall have the capability to mulch any disturbed areas on any given day (e.g., those areas where earthwork operations are ongoing, etc.). The Contractor shall apply mulch on disturbed areas consistent with the approved project schedule.

B. Mulch shall be spread uniformly in a continuous blanket at an approximate rate of 4 t/ha. Mulch may be spread by hand, mechanical spreaders, or blowers.

3.4 TEMPORARY SEED AND MULCH

A. The Contractor shall apply seed and mulch on disturbed areas consistent with the approved project schedule.

B. Prior to the application of seed, all areas where compaction has occurred shall be scarified. The seed bed shall be loose and friable for positive seed retention.

C. Ryegrasses shall be spread at a rate of 3.5 g/m2 to uniformly cover the ground. Cereal grasses shall be spread at a rate of 11.2 g/m2 to uniformly cover the ground. Seeds shall be evenly distributed by any method of sowing that does not injure the seeds in the process of spreading.

D. Mulch shall be spread immediately following application of seed. Mulch shall be spread uniformly in a continuous blanket at an approximate rate of 4 t/ha. Mulch may be spread by hand, mechanical spreaders, or blowers. Mulch and seed shall not be placed simultaneously, except in the case of hydroseeding.

3.5 TEMPORARY CHECK DAM

A. Check dams shall be constructed where shown in the contract documents and in accordance with the standard sheets. A bedding type geotextile or stone scour protection shall be placed as indicated in the contract documents.

3.6 TEMPORARY SILT FENCE

A. Unless otherwise detailed in the contract documents, silt fence shall be installed as follows:

1. Posts shall be driven into the ground.
2. Geotextile and any mesh support (if applicable) shall be placed on the upstream side of the posts.
3. The geotextile shall be fastened to each post in no less than 4 locations with approved fasteners.
4. The mesh support shall be fastened to each post at the top, bottom, and two additional evenly spaced locations, or by a continuous corded attachment along the top of the assembly.
5. Any geotextile or mesh splices necessary for fence erection shall be continuous between two post sections.
6. Geotextile at the bottom of the fence shall be buried in a trench to a depth of 150 mm. The trench shall be back filled with the excavated soil and the soil compacted by tamping.

3.7 DRAINAGE STRUCTURE INLET PROTECTION

A. Drainage structure inlet protection shall be placed where shown in the contract documents and constructed in accordance with the standard detail sheets.

B. Placing filter fabric beneath a drainage structure grate or wrapping a drainage structure grate in filter fabric is not an acceptable inlet protection practice.

3.8 ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS

A. The time and method of placement shall be as specified in the contract documents and/or according to Manufacturer’s recommendations. For areas at final grade, all loose stones, clods, sticks, or other undesirable material shall be removed in accordance with the manufacturer’s recommendations or as specified elsewhere in the contract documents. In addition, those areas

at final grade shall be scarified to a minimum depth of 25 mm immediately prior to installation, unless topsoil is being placed and the erosion control material will be installed within 2 workdays of topsoil placement.

B. Rolled Erosion Control Products:

1. Class II, Type A, Jute Mesh: Jute mesh shall be placed without stretching on the freshly prepared surface so that it lays loosely on the soil and in contact with the soil at all points; and then it shall be rolled or tamped firmly into the soil surface. The upper end of each roll shall be turned down and buried to a depth of 150 mm with the soil firmly tamped against it. Unless otherwise specified in the contract documents, check slots shall be constructed at 15 m intervals down the slope. The construction procedure shall consist of placing a fold of material 150 mm vertically into the ground and tamping soil firmly against it. Jute mesh shall be placed so that all edges shall have a minimum overlap of 150 mm. The ends of rolls shall be placed with the upgrade section on top. Jute mesh shall be held tightly to the soil by anchors driven firmly into the ground. Anchors shall be spaced not more than 1 m apart on the sides and along the centerline of all drainage ways. Jute mesh ends and check slots shall have anchors spaced at 300 mm intervals.
2. Class I, Other Class II, and Class III Rolled Erosion Control Products: These products shall be placed and firmly anchored as stated in the manufacturer's instructions.

C. Class IV Soil Stabilizers: These materials shall be applied as recommended by the Manufacturer. Types A and B are intended to be applied with hydroseeding equipment. Type B may also be placed through dry spreading. When dry spreading method is used, the Contractor shall apply the material uniformly. Where applied, Type A shall be a minimum of 6 mm thick. When Type A is used in conjunction with turf establishment, seeds must be sown separately and prior to the application of the soil stabilizer.

3.9 CONSTRUCTION ENTRANCES

A. Construction entrances shall be placed where shown in the contract documents and constructed in accordance with the standard sheets.

B. The Contractor shall grade, including excavating or placing fill, to prepare the original ground surface for the placement of a stabilized pad of 150 mm of coarse aggregate material, underlain by a geotextile. If necessary, a drainage pipe shall be installed to maintain the capacity of the ditch. The pipe dimension shall be consistent with the modified soil erosion and sediment control plan approved by the Engineer. All areas cut or filled and not stabilized by the construction entrance material shall be covered with an erosion control treatment (temporary mulch, temporary seed and mulch, etc.) and shall be included in this pay item.

C. When washing is performed, the washing area within the construction entrance shall be located in an area which will drain into an approved sediment control measure(s).

D. The construction entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto the right-of-way. All sediment spilled, dropped, washed or tracked onto the right-of-way shall be removed immediately. In the event the entrance is no longer performing properly (i.e. the entrance aggregate becomes clogged with sediment), the Contractor shall top-dress the entrance with additional coarse aggregate material.

3.10 TEMPORARY PIPE INLET/OUTLET PROTECTION, SILT FENCE

A. Temporary pipe inlet/outlet protection, silt fence, shall be placed where shown in the contract documents and constructed in accordance with the standard detail sheets.

3.11 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project's Waste Management Plan.

END OF SECTION 312500

SECTION 31 41 00 - SHORING AND BRACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provide all labor, materials, tools and equipment required for the complete installation of work called for in the Contract Documents.

1.2 SUMMARY

A. Extent of Shoring and Bracing Work includes, but is not limited to, the following:

1. Shoring and bracing necessary to protect any existing improvements scheduled to remain, including portions of existing structure, adjacent structures; streets, walkways, utilities and other improvements and excavation against loss of ground or caving embankments.
2. Shoring and bracing of existing floor, wall, ceiling/roof system scheduled to remain, including portion of existing structure, etc.
3. Maintenance of shoring and bracing.
4. Removal of shoring and bracing, as required.

B. Types of shoring and bracing system to be determined by contractor, who shall be solely responsible for their structural capacity and use.

1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Related Sections: The following contain requirements that relate to this Section:

1. Subsurface Conditions - Contact the owner for the geotechnical soil borings and reports.

1.4 PERFORMANCE REQUIREMENTS

A. Design, furnish, install, monitor and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.

1. Work includes removing excavation support and protection systems when no longer needed.
2. Prevent surface water from entering excavations by grading, dikes, or other means.
3. Install excavation support and protection systems without damaging existing buildings, pavements, and other improvements adjacent to excavation adjacent interior rooms, etc.

1.5 SUBMITTALS

A. Layout Drawings and Design Calculations: Provide layout drawings for shoring and bracing system and other data prepared by (or under the supervision of), signed and sealed by a registered Professional Structural Engineer licensed in the State of the New York. System design and calculations must be acceptable to local authorities having jurisdiction.

B. Qualification Data: For firms and persons specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project

names and addresses, names and addresses of architects and owners, and other information specified.

C. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by excavation support and protection systems.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer to assume engineering responsibility and perform work of this Section who has specialized in installing excavation support and protection systems similar to those required for this Project and with a record of successful in-service performance.

B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of New York and who is experienced in providing engineering services for designing excavation support and protection systems that are similar to those indicated for this Project in material, design, and extent.

1. Engineering Responsibility: Engage a qualified professional engineer to prepare or supervise the preparation of data for the excavation support and protection system including drawings and comprehensive engineering analysis that shows the system's compliance with specified requirements.
2. Engage and assign supervision of shoring and bracing work to a qualified foundation consultant.

C. Before starting work, check and verify governing dimensions and elevations. Survey condition of adjoining properties and spaces. Take photographs to record any prior settlement or cracking of structures, adjacent structures, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.

D. Survey adjacent structures and improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations. Locate datum level used to establish benchmark elevations sufficiently distant so as not to be affected by movement resulting from excavation operations.

E. During excavation, resurvey benchmarks weekly, employing a licensed Land Surveyor or registered Professional Engineer, licensed in the State of the project. Maintain accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags or other damage is evident.

1.7 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by the Owner or others unless permitted, in writing, by the Architect or Construction Manager, and then only after arranging to provide temporary utility services according to requirements indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide suitable shoring and bracing materials which will support loads imposed. Materials need not be new, but should be in serviceable condition.

B. If wood is part of shoring system near existing structure, use pressure preservative treated materials or remove before placement of backfill.

C. Structural Steel: ASTM A 36 (ASTM A 36M).

D. Steel Sheet Piling: ASTM A 328 (ASTM A 328M) or ASTM A 572 (ASTM A 572M)

E. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of 3 inches (75mm).

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection operations.

1. Shore, support and protect utilities encountered.

B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the Owner and the authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways as required by governing regulations.

C. Locate excavation support and protection systems clear of permanent construction and to permit forming and finishing of concrete surfaces.

D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure excavation support and protection systems remain stable.

E. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

3.2 SHEET PILING

A. Install one-piece sheet piling and tightly interlock to form a continuous barrier. Accurately align exposed faces of sheet piling to vary not more than 2 inches (50 mm) from a horizontal line and not more than 1:120 out of vertical alignment. Cut tops of sheet piling to uniform elevation at top of excavation.

3.3 SHORING

A. Wherever shoring is required, locate the system to clear permanent construction and to permit forming and finishing of concrete surfaces. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures.

B. Shoring systems retaining earth on which the support or stability of existing structures is dependent must be left in place at completion of work.

3.4 BRACING

A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace.

B. Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Architect and Structural Engineer.

C. Install internal bracing, if required, to prevent spreading or distortion to braced frames.

D. Maintain bracing until structural elements are rebraced by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

E. Remove sheeting, shoring and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.

F. Repair or replace, as acceptable to Architect, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

3.5 REMOVAL AND REPAIRS

A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils and damaging structures, pavements, facilities and utilities.

1. Remove excavation support and protection systems to a minimum depth of 48 inches (1200 mm) below overlying construction and abandon remainder.
2. Repair or replace, as approved by Architect, adjacent work damaged or displaced by removing excavation support and protection systems.

END OF SECTION 314100

SECTION 315000 – EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including general and supplemental conditions and Division 31 specifications apply to this section.

1.2 SUMMARY

A. This section specifies requirements for the Contractor's activities such that they provide for the safety of workers and the public. All activities shall be conducted in accordance with pertinent OSHA regulations and the Contractor shall observe all applicable local, state and federal requirements and acquire all necessary permits.

B. The Contractor shall bench or cut back excavated slopes, dewater and sheet, as necessary for stability, safety and protection of adjacent properties, utilities and structures.

C. Sheeting, where utilized, shall be in conformance with pertinent OSHA Regulations to protect employees and to satisfactorily complete the work without causing subsidence and to prevent damage to adjacent ground and structures. If removal of temporary sheeting can potentially damage the existing appurtenances and structures, and/or the new construction, the sheeting and bracing as necessary, must remain in-place permanently.

D. Monitoring shall be required to evaluate the performance of the installed excavation system and to monitor potential impact.

E. These requirements are minimum standards and shall be increased as necessary depending on the hazard or if directed by the Owner's Representative.

F. This section includes work that complements work in the following sections:
   1. Site Preparation, Section 310000;
   2. Earthmoving, Section 312000;
   3. Earthwork for Structures, Section 312001;
   4. Trenching and Backfilling, Section 312033;
   5. Dewatering, Section 312319.

1.3 DESIGN CRITERIA

A. The Contractor shall be responsible for the design of all excavation support systems, regardless of review of the plans or methods of construction, by the Owner's Representative. The Contractor shall design and construct support systems in accordance with the following criteria:
   1. Design of excavation support shall be made by a Professional Engineer licensed in the State of New York and experienced in the design of earth support systems. The Contractor shall submit sheeting and bracing plans bearing the stamp of the Professional Engineer for review by the Owner's Representative.
   2. Each member shall be designed with a proper factor of safety to support the maximum loads that can occur during construction including all potential live loads and surcharge loads.
   3. Carry the bottom of the support system to a depth below the main earth excavation adequate to resist design soil pressures. The design shall account for potential undercutting of the excavation bottom due to the presence of unsuitable subgrade soils.

1.4 SUBMITTALS

A. General: Submittals shall be made according to the conditions of the Contract and Division 1 Specifications Sections.

B. Working Drawings:
   1. Submit Excavation Support System working Drawings in accordance with the requirements of Division 1 and the Agreement.
   2. Include the following on the Drawings:
      a. Details, arrangement and method of construction of the proposed system.
      b. The method of preloading, if required and bracing.
      c. The elevation of struts and shores, as applicable, and permissible depth to which excavation may be carried before such supports are installed and preloaded.
      d. The full excavation depths, the depths below the main excavation to which the support system will be installed and the maximum design load to be carried by the various members of the support system, and preloads.
      e. Design calculations including references to design methods used, assumptions, design parameters, material properties, allowable stresses and other pertinent information.
      f. Excavation support system deflection tolerances and monitoring requirements.
      g. Monitoring locations shall be established to monitor performance of the installed excavation support system, and to monitor the existing school structure.

PART 2 - PRODUCTS

2.1 Not Used.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Installation of earth support systems shall be performed without causing damage to adjacent ground, structures and utilities.

B. If unstable material is encountered during excavation, suitable measures must be taken to contain it in place and prevent ground displacement, which may cause damage.

C. Do not continue excavation in running ground. Implement proper dewatering procedures prior to continued excavation. Employ a positive means of containing the material behind the lagging, if present, before excavation continues.

D. Materials shall not be placed adjacent to the sides of sheeted or open excavations within a distance equal to two times the maximum depth of the excavation. Stockpiling material over the existing utilities, structures, sewers, force mains or water lines shall not be permitted.

3.02 REMOVAL AND RESTORATION

A. The removal of the support system shall be done such that the constructed structure remains undisturbed and that no disturbance or damage shall occur to adjacent structures, utilities, or other appurtenances. If removal of temporary support system can potentially damage adjacent features, then the support system must remain permanently.

B. If soil is retained on the temporary support elements during removal, the extraction and removal shall be terminated such that overlying structures and features are not damaged.

C. Support systems left in place shall be cutoff at least 3-feet below adjacent finished grades, and

as directed by the Owner's Representative.

D. The Contractor shall repair all damage to property resulting from installation or removal of the support system at no additional cost to the Owner.

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END OF SECTION 315000

SECTION 316329 – DRILELD CONCRETE PIERS (CAISSONS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

B. Information concerning a sub-surface soil investigation by the Owner's Geotechnical Engineer is available and will be furnished by the Owner upon request. The contractor may use the data included therein for his general information only.

C. Related sections include:
1. Section 03 10 00 "Concrete Formwork"
2. Section 03 30 00 "Cast-In-Place Concrete"
3. Section 03 32 00 "Concrete Reinforcing"
4. Section 31 20 00 "Earthwork for Structures"

1.2 DEFINITIONS

A. Casing: Steel cylinder used to resist earth and water pressures, to serve as concrete form, and to protect personnel.

B. Dry Method: A method of pier installation in which concrete is placed in the dry. Casing may or may not be used to maintain sidewall stability.

C. Owner's Representative: The Architect, Structural Engineer, or Geotechnical Engineer authorized to act on behalf of the Owner.

D. Contractor's Geotechnical Engineer: The Geotechnical Engineer obtained by the Contractor that is specifically authorized to carry out the responsibilities defined in this specification and qualified and licensed in the State of New York.

E. Contractor's Professional Land Surveyor: A Land Surveyor obtained by the Contractor that is certified and authorized to provide Land Surveying in the State of New York having a minimum of 5 years providing professional land surveying services.

F. Probe hole: A 1.6 to 2.5 inch diameter hole usually drilled by air percussion methods to a required depth below the pier bottom. The Geotechnical Engineer feels the probe hole by lowering and raising a hooked rod. The size and amount of seams found enables the determination of the soundness of the subsurface formation.

G. Slurry Displacement Method: Method of drilling and concreting in which controlled slurry consisting of water, with or without additives such as bentonite, attapulgite, or polymer, is used to stabilize the hole. The slurry may be used either to maintain the stability of the uncased drilled pier hole or to allow concrete placement when water seepage into a drilled pier hole is too severe to permit concreting in the dry or both.

H. Tremie method: Procedure for placing concrete under water or slurry using a watertight steel pipe or tube to place concrete without washing out cement fines.

1.3 STANDARDS

A. The following Standards are listed in this specification:

ASTM A36	Standard Specification for Carbon Structural Steel
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A929	Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C94	Specification for Ready Mixed Concrete
ASTM C150	Specification for Portland Cement
ASTM D1143	Standard Test Method for Piles Under Static Axial Compressive Load
ASTM D4380	Standard Test Method for Density of Bentonitic Slurries
ASTM D4381	Standard Test Method for Sand Content by Volume of Bentonitic Slurries
ASTM D4972	Standard Test Method for pH of Soils

1.4 PERFORMANCE REQUIREMENTS

A. The Contractor shall furnish all labor, materials, services, equipment (including temporary casings and/or dewatering where required), and shall install all piers at the locations and depths shown on the drawings or as otherwise directed by the Owner's Geotechnical Engineer. Installation methods compatible with the design may be used if acceptable to the Owner's Geotechnical Engineer. Methods that are not compatible with the design shall be excluded from consideration.

B. The Contractor shall furnish and place all reinforcing steel, dowels, and anchor bolts that are shown on the drawings to be embedded in the pier.

C. The Contractor shall furnish all materials and labor as required to perform the load tests as specified herein and on the drawings.

D. The Contractor shall provide all necessary excavation, sheeting and bracing or other adequate maintenance of excavation banks, suitable runways and ramps as necessary for access of pier drilling, control of ground and surface water as necessary to keep the work area sufficiently dry, suitable access roads for movement of equipment and materials to and from pier locations, field layout required for pier work including setting and maintaining a location stake for each pier and giving cut-off grades on all piers, removal and replacement of all overhead and underground obstructions as required, and coordination of all concrete ordering and delivery.

1.5 QUALIFICATIONS

A. Drilled piers shall be installed by a specialty Contractor with suitable equipment, competent personnel, and a reputation of satisfactorily performing the work. The Contractor shall have a minimum of 5 years successful experience and a minimum of 5 successful installations on projects of a similar size and scope to this project and of using similar installation methods as may be anticipated for this project. Evidence of compliance with this section shall be submitted to the Architect/Engineer prior to entering into a contract for the work.

1.6 SUBMITTALS

A. Concrete Mix Design: Submit concrete mix designs suitable for method of concrete placement for Engineer and Owner's Testing Laboratory approval prior to pier installation. Reference 03 30 00 “Cast in Place Concrete”.

B. Drilling Records: The Contractor and the Contractor’s Geotechnical Engineer shall each submit copies of the drilling record for each pier to the Architect/Engineer immediately after drilling. The reports shall indicate the name of the job, name of Contractor, and name of drilling superintendent. For each pier installed, the report shall indicate the following information:

1. Pier number and location
2. Pier shaft diameter
3. Bottom elevation
4. Top elevation
5. Pier length
6. Theoretical volume of concrete in pier
7. Actual volume of concrete placed
8. Reinforcing steel size and depth actually placed
9. Drilling start and finish time
10. Concreting start and finish time
11. Variation from specified tolerances including surveyed location and plumbness
12. Construction method (dry method, casing method, or slurry displacement method)

13. Groundwater conditions (rate of water infiltration and depth of water in hole prior to concreting for dry piers; water elevation in hole for wet piers)

14. Elevation of top and bottom of any casing left in place

15. Description of temporary or permanent casing (including purpose, diameter, wall thickness and length)

16. Description and elevation of any obstructions encountered and whether removal was obtained

17. Description of pier bottom including amount and extent of loose material

18. Method of concrete placement

19. Any difficulties encountered in drilling or concreting operations

20. Any deviations from specifications.

Reports prepared by the Contractor's Geotechnical Engineer shall be compiled and signed by the Contractor's Geotechnical Engineer. Reports prepared by the Contractor shall be compiled and certified by the Contractor's Geotechnical Engineer.

C. Shop Drawings:

1. Reinforcing Steel: Submit shop drawings for all drilled pier and pier cap reinforcing steel.

2. Installation Method: Submit detailed procedures of the installation method, including (where applicable) type and number of drilling rigs and equipment, casing size and length, casing removal method, drilling fluid type, dewatering method, concrete placement, and reinforcing steel securing and placement.

3. Steel Casings: Submit shop drawings for size, wall thickness, length, and grade of permanent steel casings required. Show all splices and methods of splicing.

4. Contractor's Geotechnical Engineer shall confirm the bearing capacities.

D. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items.

E. Qualification Data:

1. Submit qualification data for firms and persons specified in the article entitled "Qualifications" to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

2. Submit Welding Procedure Specifications (WPS) in accordance with ANSI/AWS D1.1 for all welded joints in steel casing. Submit test reports showing successful passage of qualification tests for all non-prequalified WPSs.

3. Provide certification that welders to be employed in work have satisfactorily

passed AWS qualification tests as specified in section 1.05-B. If recertification of welders is required, retesting will be at Contractor's responsibility.

F. Equivalent Alternates: The Contractor shall submit his bid based on the specifications as written without exceptions. He may submit bids for alternates to the specifications or modifications to the design, load test program, or installation specifications for consideration by the Owner's Representative and the Owner. All equivalent alternated shall be certified by the Contractor's Geotechnical Engineer and Professional Land Surveyor and shall be submitted in writing to the Engineer of Record for review and acceptance prior to starting construction. All accepted equivalent alternates shall be provided by the contractor without adding costs to the Contractor's accepted contract agreement with the Owner.

G. Post Construction Survey: After completion of pier placement, the Contractor shall provide the Owner's Representative with an as-built survey certified by the Contractor's Geotechnical Engineer and Professional Land Surveyor showing the actual locations of the piers at the top elevations. This survey shall show the plumbness of vertical piers, and all abandoned piers and their replacements. No construction of superstructures shall commence until this survey has been reviewed and accepted by the Owner's Representative. In order to facilitate the progress of the Work, the Contractor shall submit partial pier surveys for approval as the Work proceeds.

1.7 QUALITY ASSURANCE

The Contractor is responsible for quality control, including workmanship and materials furnished by his subcontractors and suppliers.

A. Codes and Standards: The Contractor shall comply with the provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. ACI 336.3R – "Design and Construction of Drilled Piers"
2. ACI 301 - "Specifications for Structural Concrete for Buildings".
3. ACI 117 - "Specifications for Tolerances for Concrete Construction and Materials."
4. ACI 318 - "Building Code Requirements for Reinforced Concrete".
5. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice".
6. ANSI/AWS D1.1 "Structural Welding Code - Steel".
7. ANSI/AWS D1.4 "Structural Welding Code – Reinforcing Steel".

In addition, all applicable building code and local regulations shall be followed. In case of conflict, the strictest interpretation shall govern.

B. Survey Work:

1. The Contractor shall employ a qualified professional land surveyor to perform all surveys, layouts and measurements for drilled pier work including the layout of anchor rods and/or reinforcing steel dowels embedded in drilled piers. The surveyor shall conduct the layout work for each drilled pier to the lines and levels required prior to beginning excavation and shall make actual in-place measurements of each drilled pier plan location, shaft diameter, bottom and top elevations and deviations from specified tolerances.

2. The surveyor shall record and submit all information pertinent to each drilled pier and cooperate with other testing and inspection personnel to provide data for all required reports.

C. Testing Laboratory Requirements: The Contractor shall cooperate with all testing and inspection personnel employed to perform field quality control tests and inspections. See Testing Laboratory section of the specifications for required tests and inspections to be performed by the Testing Laboratory and Geotechnical Engineer.

Inspection or testing by the Owner does not relieve the Contractor of his responsibility to perform the Work in accordance with the Contract Documents.

1.8 JOB CONDITIONS

A. Site Information:

1. Data on indicated subsurface conditions are not intended as representations or warranties of continuity of such conditions. It is expressly understood that Owner will not be responsible for interpretations or conclusions drawn therefrom by the Contractor. The data are made available for convenience of the Contractor.

2. The Contractor may make additional test borings and other exploratory operations at no additional cost to the Owner.

3. The Contractor shall inspect the site prior to drilling operations and shall determine any constraints to the work presented by the existing surface conditions and report them to the Owner's Representative.

B. Protection of Existing Structures: Locate all existing underground structures and utilities that are to remain in service during construction. Protect above-ground structures, underground utilities and other construction from damage caused by drilling operations. Report any conflicts between drilling work and underground utilities and structures to the Owner's Representative and do not proceed with the work until the conflict is resolved.

C. Survey of Existing Structures: Record and report to Architect/Engineer surveyed elevation benchmarks on structures where directed by the Owner's Representative before commencing work, when structures are adjacent to drilling operations. Record and report elevation of each benchmark at least twice a day while drilling is in progress. Should benchmark readings indicate displacement, halt drilling operations until corrective action

has been provided and is acceptable to the Owner's Representative and the Owner.

1.9 PREINSTALLATION CONFERENCE

A. At least 7 days prior to beginning pier installation, the Contractor shall conduct a meeting to review the proposed excavation, inspection, and concrete and reinforcement placement methods and procedures to produce pier construction of the required quality. Also review requirements for submittals, status of coordinating work and availability of materials. Establish work progress schedule and procedures for bearing surface inspection, materials testing, and certifications. The Contractor shall send a pre- installation conference agenda to all attendees 7 days prior to the scheduled date of the conference.

B. The Contractor shall require responsible representatives of every party who is concerned with the concrete work to attend the conference, including but not limited to the following:

Contractor's Superintendent
Laboratory responsible for field material testing
Drilling Subcontractor
Ready-Mix Concrete Producer
Contractor's Geotechnical Engineer
Owner's and Architect's/Engineer's Representative
Contractor's Professional Land Surveyor

C. Minutes of the meeting shall be recorded, typed and printed by the Contractor and distributed by him to all parties concerned within 5 days of the meeting. One copy of the minutes shall be transmitted to the following for information purposes:

Owner's Representative
Architect
Engineer-of-Record

D. The Engineer shall be present at the conference. The Contractor shall notify the Engineer at least 7 days prior to the scheduled date of the conference.

PART 2 - PRODUCTS

2.1 CONCRETE

Concrete shall be as specified in the "Cast-in-Place Concrete" section of the specifications, in the general notes, and on the drawings, with the additional requirements specified below:

A. Maximum Aggregate Size: Provide maximum aggregate size of three quarters of minimum clear spacing between individual reinforcing bars or bundles of bars, with 1 1/2" maximum.

B. Water Reducing Admixtures: Where required by mix design, use water-reducing admixtures in strict compliance with manufacturers directions. Admixtures to increase cement dispersion, or provide increased workability for low-slump concrete may be used at contractor's option. Use admixtures in the amounts as recommended by manufacturer for climatic conditions prevailing at time of placing concrete. Adjust quantities of admixtures

as required to maintain quality control.

C. Slump Limits: Proportion concrete to have a slump that is suitable for the placement process used. The mix must remain fluid throughout the concrete placement time and during extraction of any temporary casing. Provide a minimum 6" and maximum 9”slump concrete with retarder for temporarily cased piers at time of pulling casing.

2.2 REINFORCING STEEL

A. See "Concrete Reinforcing Steel" section of the specifications.

B. Reinforcing Support and Positioning Devices: Devices made of non-corrosive material that support and align reinforcing steel within the shaft and that provide the appropriate side and bottom cover to the reinforcing steel. Acceptable manufacturers include:

“Pieresearch”
“Aztec, a Dayton-Superior Company” “Foundation Technologies, Inc.”

2.3 STEEL CASING

A. Steel casing shall conform to ASTM A 283, Grade C or ASTM A

36. B. Corrugated steel casing shall conform to ASTM A 929.

2.4 GROUT

A. Grout used for filling annular void outside permanent casings shall be sand cement grout consisting of Portland cement (ASTM C 150 Type I or III), sand (ASTM C 33), and water. Proportions by weight shall be one part cement, 2 1/4 to 2 1/2 parts sand, and the minimum amount of water required to obtain a workable mix but not exceeding a water- cement ratio of 1.0. The grout mix shall be suitable for the method of installation, whether by gravity feed of by pumping under pressure.

2.5 CONCRETE MIXING

A. Ready Mix Concrete: Comply with the requirements of ASTM C94.

B. Hot Weather Concreting: The maximum acceptable concrete temperature at the truck discharge point shall be 95°F. Refer to Hot Weather Concreting Practices specified in "Cast-in-Place Concrete" section of the specifications for required hot weather concreting practices.

C. Cold Weather Concreting Practices: Refer to the "Cast-in-Place Concrete" section of the specifications for cold weather concreting practices and the conditions under which they are to be followed.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Requirements:

1. Excavate holes for drilled piers to dimensions and required bearing strata or elevations as shown on the drawings unless directed otherwise in the field by the Owner's Geotechnical Engineer.

2. Maintain sidewall stability during drilling. If sidewall instability is encountered that the Owner's Representative considers excessive, the Contractor shall use alternate drilling methods such as temporary casing or slurry displacement method.

3. Excavate holes for closely spaced piers and those occurring in fragile or sand stratas only after adjacent holes are filled with concrete and allowed to set a minimum of 6 hours or longer as required for concrete to harden unless temporary casing to maintain sidewall stability is used.

4. Drilled pier design dimensions and depths shown on the drawings shall be considered minimums and are based on bearing and/or friction in assumed strata. If bearing stratum is not capable of maintaining the assumed capacity, the foundation system shall be revised as directed by the Owner's Geotechnical Engineer and Owner's Representative.

5. Remove loose material and free water from the bottom of the shaft. The bearing surface should be essentially flat within a tolerance of 1 vertical to 12 horizontal or with one step that is less than one-quarter of the diameter of the bearing area.

6. Explore the bearing stratum of each pier with a probe hole to a minimum depth equal to the diameter of the bearing area below the bottom of the pier, unless waived by the Contractor's Geotechnical Engineer.

B. Equipment:

1. Provide adequate equipment so work is expedited to the fullest extent possible. Use equipment fully capable of excavating shafts to depths, diameters, and sizes indicated, and within the specified tolerances. Maintain equipment in satisfactory operating condition and provide sufficient quantity of equipment to maintain the projected schedule of the Work.

2. Using bits or augers with a power-driven rotary-type rig, a shaft of a diameter specified on the drawings shall be excavated from the ground surface to a depth as specified on the drawings or as ordered by the Owner's Geotechnical Engineer.

C. Obstructions:

1. Contractor shall be responsible for removal of rocks, boulders, or other unforeseen obstructions are encountered which cannot be removed by standard drilled pier excavation methods, and if such obstructions are not indicated by available sub-

surface data.

2. Remove such obstructions by hand labor using air-powered tools or by other safe methods recognized in the construction industry. Standard drilled pier excavation methods include the use of core barrels with pier drilling equipment.

3.2 DEWATERING

A. Provide and maintain pumping equipment to keep excavations free of water before placing concrete. An excavation is considered dry if the water rises at a rate of less than 1/4 inch per minute and the height of water at the bottom of the pier does not exceed two inches at the time of concrete placement.

B. Dewater in a manner that will not create subsidence or ground loss that might adversely affect the Work or existing adjacent structures. Should the dewatering system employed involve pumping inside the pier, extreme caution shall be used to prevent an unbalanced water head from causing a "blowout", bottom heave, or "quick" condition that could disturb the proposed bearing stratum or surrounding soil strata.

C. The dewatering method shall be submitted for review and approval of the Owner's Geotechnical Engineer.

D. Conduct water to general site run-off ditches and disposal areas with discharge lines. Provide ditching as required to conduct water to site drainage facilities.

E. If excessive water and/or sidewall instability is encountered and drilling operations must be halted, consult with Geotechnical Engineer and Owner’s Representative before using alternate methods of construction.

3.3 TEMPORARY STEEL

CASINGS A. Requirements:

1. Provide temporary casing at locations as directed by the Contractor’s Geotechnical Engineer where the soil will not stand without support or where sloughing of the sides of shafts may seriously delay or endanger the satisfactory completion of excavation and placement of concrete. Also provide temporary casing at locations as directed by the Contractor’s Geotechnical Engineer to seal off the inflow of water into the excavation.

2. The Contractor shall have immediately available for use on the job an ample supply of casing for each size that will be required for use in the shafts and shall provide additional amounts, as required, to ensure the orderly progress of the job.

3. Such casing may be in short pieces but with jointing devices of sufficient strength that assembled sections of casing may be pulled complete as concrete is placed, or immediately thereafter. Provide casing of sufficient strength to withstand handling stresses, concrete pressure, and surrounding earth and/or fluid pressures. Make

diameter of excavation in relation to diameter of casing such as to create a minimum of void space outside of casing. Provide casing with a minimum outside diameter equal to normal outside diameter of drilled foundations.

B. Delivery, Handling, and Storage of Casing

1. Deliver casing to site in undamaged condition.
2. Handle and protect casing to maintain diameter within plus or minus two percent.

C. Casing Withdrawal: Unless otherwise approved by the Contractor's Geotechnical Engineer, all temporary casing shall be removed from shafts as concrete is placed or immediately thereafter, and in such a manner as to prevent sloughing material from dropping to the bottoms of shafts or falling on top of freshly placed concrete. Casings shall be pulled in a single continuous smooth operation without sudden jerks or impact. Maintain head of concrete above the bottom of the casing that exceeds the soil and water pressure at all times during casing withdrawal. Do not vibrate concrete internally before the casing is withdrawn. A vibratory casing extractor may be used. Do not withdraw casing after the concrete has attained initial set. The casing withdrawal and concreting operations shall be observed by the Contractor's Geotechnical Engineer.

3.4 REINFORCING STEEL PLACEMENT

A. Before placing, clean reinforcing steel and dowels of loose rust, scale, dirt, grease and other material that could reduce or destroy bond.

B. Fabricate and erect reinforcing cages in shafts as one continuous unit using inner ring reinforcing guide. Place reinforcement accurately and symmetrically about axis of hole and hold securely in position during concrete placement. The Contractor shall verify depths of drilled piers prior to cutting and tying reinforcing steel cages. Reinforcing steel shall be delivered to the site in standard 60-foot lengths and cut as required. Splice no more than 33% of the bars at any one location, alternating spliced and unspliced bars in a symmetrical pattern. Splices shall be 30 bar diameter compression splices for bars #11 and smaller and mechanical end bearing compression splices for #14 and #18 bars unless noted otherwise on the drawings. See drawings for additional splice information. The Contractor shall be responsible for adding additional reinforcing steel ties or spirals as required to ensure stability of cage and maintenance of shape and configuration as required for proper lifting, handling, and placement.

C. Provide cover to reinforcing steel of not less than 3 inches where exposed to soil and not less than 4 inches in temporarily cased piers. Provide spacer devices to maintain side and bottom cover. Devices shall be installed in accordance with manufacturer's instructions.

D. Permissible reinforcing steel upward vertical movement during casing withdrawal shall be no greater than 6 inches. Downward movement should not exceed 6 inches for every 20 feet of shaft length.

E. Use templates to set anchor bolts, leveling plates and other accessories furnished under work of other sections. The Contractor's Professional Land Surveyor shall determine the plan location and elevation of such devices. Provide spacers (capable of sliding on any

temporary casings required), blocking and holding devices to maintain required position during concrete placement.

F. The General Contractor shall protect exposed ends of dowels and anchor bolts from mechanical damage and exposure to weather by wrapping and taping with polyethylene or other suitable material.

3.5 CONCRETE PLACEMENT

A. General:

1. Fill drilled piers with concrete immediately after inspection and approval by the Contractor's Geotechnical Engineer. Use protection sheets (cut out to receive concrete) over excavation openings, extending at least 12" beyond edge. Complete the excavation and concrete placement in uncased excavations before the end of the workday unless the Architect/Engineer grants permission to do otherwise in writing.

2. Place concrete continuously and in a smooth flow without segregating the mixed materials.

3. Place concrete by means of bottom discharge bucket, flexible drop chute, elephant trunk hopper, concrete pump, or tremie. Free fall of concrete may be used if provided for in concrete mix design and provided it is directed through a hopper or chute such that fall is down center of shaft without hitting sides or reinforcing steel. Free fall of concrete is not permitted for depths greater than the smaller of 20 times the shaft diameter or 60 feet.

4. Place concrete in-the-dry if at all possible. If water occurs, and it is impracticable to dewater drilled pier excavation, and reasonable attempts to seal off water flow have failed, allow water level to attain its normal level and place concrete by tremie method or by concrete pumping. Other methods of depositing concrete underwater may only be used if approved by Architect/Engineer.

5. Stop concrete placement at cut-off elevation shown, screed level, and apply a scoured, rough finish. Where cut-off elevation is above ground elevation, form top section above grade and extend shaft to required elevation.

6. Provide mechanical vibration for consolidation of at least top 5' of each shaft but only after any temporary casing is pulled or when casing is permanent.

7. Interrupted placing operations of over one hour duration will require a cold joint installation as follows. Leave resulting shaft surface approximately level. At resumption of concrete placing, clean off surface laitance, roughen as required, and slush with a 1-to-1 cement grout or commercial bonding agent before remainder of concrete is placed. Intentional cold joints will not be permitted.

8. Concrete shall not be placed in adjacent drilled piers located within three center-to-center shaft diameters of each other until concrete has cured a minimum of 6

hours.

9. Aluminum pipe or equipment shall not be used for placing concrete.

B. Tremie Method:

1. The drilled shafts shall be filled with concrete by the use of a tremie or concrete pump, sealed at the bottom, extending from above the ground surface to the bottom of the drilled shaft. Inspection of the empty tremie on the bottom may be requested of the Contractor by the Owner's authorized inspector. With the sealed tremie on the bottom of the shaft, the tube shall be filled to the top extending above the ground. The filled tremie shall be picked up approximately one (1) foot off the bottom of the shaft to allow the weight of the concrete to displace the seal at the bottom of the tremie. At no time is the tremie to be pulled to such a height as to clear the surface of the concrete already placed in the shaft. All concrete shall be poured through the now open tremie with care taken to maintain a sufficient head of concrete to completely displace all water and suspended cuttings of material and to provide sufficient pressure so as to prevent reduction in pile diameter by earth pressure on the fresh concrete. The concrete in each pile shall be carried above cut-off elevation and then dipped out while fresh to cut-off elevation.

2. All concrete shall be deposited through the tremie or pumpline so as to provide a continuous flow, without aggregate segregation, from bottom to top of pile. The production and delivery of the ready-mixed concrete shall be such that not more than 45 minutes shall elapse between the depositing of successive batches of concrete to ensure a monolithic unit of concrete. No deviation from this method will be acceptable.

3. Should the surface of the concrete in the shaft be breached by the tremie or pumpline, the tube shall immediately be withdrawn from the hole, re-sealed and re-lowered below the surface of the concrete, and pouring operations re-started. Should the Owner's authorized inspector deem it necessary, the Contractor shall instead retrieve the reinforcing steel cage, redrill the shaft to reopen the hole, and begin the concreting operations from the bottom of the pier shaft.

4. If the Contractor’s Geotechnical Engineer has reason to suspect that the concrete was breached by the tremie or pumpline or that the pier, for any other reason, may contain extraneous material or otherwise fail the specifications, he may order the pier cored for inspection and/or testing. If the core recovery and/or test results indicate non-compliance with the specifications, the Contractor shall bear the expense of the investigation and/or testing and shall also, at no cost to the Owner, install proper additional construction as required by the Architect/Engineer.

C. Hot and Cold Weather Placement: Refer to Part II.

3.6 SLURRY DISPLACEMENT METHOD

A. General:

1. The slurry displacement method of construction may be employed only if approved by the Contractor’s Geotechnical Engineer. The excavation shall be carried to final depth with the hole stabilized using drilling fluid of a minimum density acceptable to the Contractor’s Geotechnical Engineer. The drilling fluid may be reused, but it shall be treated, if necessary, to remove the granular material that is in suspension. Care shall be taken in the drilling to avoid caving or sloughing. The bottom of the hole shall be cleaned with a clean-out bucket or other appropriate tool. Type and proposed density of drilling fluid shall be submitted for approval by the Owner's Geotechnical Engineer.

2. Each finished shaft shall consist of a continuous column of concrete extending from the required top elevation to the required bearing surface, having firm contact against the vertical and horizontal surface of the earth surrounding it.

3. Shaft drilling and concrete placement shall be sequenced to prevent damage to adjacent shaft or shaft excavations.

B. Definitions

1. Slurry displacement method (SDM): Drilling, concreting, or drilling and concreting where slurry is used to stabilize the hole. The slurry may be used (a) for the maintenance of the stability of the unlined drilled shaft element; (b) to assist the drilling or insertion of casing as part of the shaft construction; or (c) to allow acceptable concrete placement when water seepage into a drilled shaft is too severe to permit concreting in the "dry."

2. Slurry or drilling fluid - water or prepared drilling mud properly mixed with water.The drilling fluid shall be treated as necessary to conform to the requirements given in Table 1.

3. Mud - pulverized solids used as the basic ingredient for making a water-based slurry.

C. Excavation

1. Shaft excavation shall be to the elevations and to the diameters shown on the Engineer's drawings. Bottom elevations are minimum depths. Shafts may be extended only at the approval of the Owner’s Geotechnical Engineer, based upon written recommendations by the Contractor’s Geotechnical Engineer.

2. Use methods and equipment for shaft excavation that leave the side of the hole and bottom free of loose material that would prevent intimate contact of the concrete with firm, undisturbed soil or rock. If loose or unacceptable material is present, reclean the hole to the satisfaction of the Contractor’s Geotechnical Engineer.

3. Use drilling tools and excavation procedures that minimize excessive negative pressure and avoid disturbance of the surrounding material in the excavations. Raise and lower the drilling tool in the hole at a rate that does not swirl the slurry and affect the stability of the hole.

4. At the completion of excavation and again before the start of concrete placement, clean the drilled-shaft bottom with an air-lift or recirculation system or a cleanout reentering the shaft.

5. For piers designed without end bearing, the accumulated sediment at the bottom of the pier, measured by sounding with a weighted tape just prior to concreting, shall be less than 6 inches. If greater, reclean the hole to the satisfaction of the Contractor’s Geotechnical Engineer.

6. All spoil and excavated materials shall be kept away from each open shaft excavation to avoid contamination of the excavation after final cleanout.

7. Excavated materials shall be stockpiled or disposed of in areas designated by the Owner's representative.

8. Excavated materials temporarily placed at other locations for the convenience of the Contractor will be allowed only with written approval of the Owner's representative and shall finally be removed and placed within designated disposal areas.

D. PROVISIONS FOR OBSERVATION

1. The Contractor shall cooperate with the Owner and design team to ensure the expeditious and safe observation of the shaft excavations.

2. If the Contractor’s Geotechnical Engineer determines that the material at the bottom of any excavation is unsatisfactory, additional excavation or other corrective action shall be made as directed by the Contractor’s Geotechnical Engineer.

3. If additional excavation is required, the shaft bottom shall be drilled again and observed as described above. This procedure shall be repeated until a bearing material is reached that is approved by the Contractor’s Geotechnical Engineer.

E. SLURRY REQUIREMENTS

1. The mud slurry shall consist of a stable colloidal suspension of pulverized solids thoroughly mixed with water so that the properties specified in Table 1 are maintained. Attapulgite and bentonite shall meet API Specification 13A, Section 3, "Oil-Well Drilling-Fluid Material" dated March 1981. The type of mud used will depend on the subsurface conditions and mixing water character. The water used to mix the slurry shall be clean, drinkable, fresh water, obtained from sources approved by the Owner's Representative. Any physical or chemical treatment to the water or slurry that is considered necessary to have the slurry meet

the specifications is the responsibility of the drilled shaft contractor. A written certificate shall be supplied to the Architect/Engineer by the mud supplier specifying the quality and yield for each shipment of mud received. A test report from the supplier giving the physical and chemical properties of the mud shall be supplied to the Architect/Engineer at the start of the work.

2. Water may be used in place of mixed mud slurry, subject to the approval of the Contractor's Geotechnical Engineer on a pier-by-pier basis except for end bearing piers.

3. For shafts with endbearing greater than or equal to 25% of the total allowable capacity as shown on the structural drawings, the mud slurry sand content shall be limited to 4%.

4. The mud slurry shall be mixed in mud tanks on-site or arrive at the site premixed. The mud slurry shall be mixed, stored, and transported using equipment made for these purposes. Combining or mixing slurry in the shaft shall be not permitted.

5. The in-hole slurry shall meet the specifications prior to concreting. Replace or clean, recirculate, and remove sand from, the slurry to maintain the required slurry properties. Recycling of slurry is permitted provided that the recycled slurry satisfies the specified requirements. Submit to the Owner's Representative a written record of test results for each drilled pier.

6. The Contractor shall perform testing of the slurry according to the test methods prescribed in Table 1 and shall record the results for quality control purposes. Provide all field test equipment as required. The drilled-pier contractor shall have available at the site a slurry sampler capable of obtaining slurry samples at any depth within the drilled pier excavation. Slurry shall be sampled and tested in the mud tank and from samples recovered within 1 ft. from the bottom of each drilled shaft.

TABLE 1

SLURRY
SPECIFICATIONS

Item to be Measured	Range of Results at 20°C	Test Method
Density, (pcf)** For slurry 1 ft from pier bottom		ASTM D 4380 (Mud Balance)
Mineral Slurries		
a. No end bearing	85 Max.	
b. With end bearing	70 Max.	
Polymer Slurry	64 Max.	
Marsh Funnel Viscosity, (sec./qt)		API-RP13B-1* Section 2
a. Mineral Slurry	25 to 60	(Marsh funnel)
b. Polymer Slurry	40 to 90	
Sand Content by Volume (%), before concreting, for slurry 1 ft from pier bottom		ASTM D 4381 (Sand screen set)
Mineral Slurries		
a. No end bearing	20 Max.	
b. With end bearing	4 Max.	
Polymer Slurry	1 Max.	
pH, during excavation	7 to 12	ASTM D 4972

* Reference Test Method is American Petroleum Institute (API), Spec. 13B, Eighth Edition, April 1980, issued by American Petroleum Institute - Production Department - 211 N. Ervay, Suite 1700, Dallas, Texas 75201.

** The density of the mud slurry shall not be less than what is needed to drill the shaft.

F. Installation Method

1. Where pre-drilled piers are to be installed below the groundwater level or in caving and sloughing soils, and the procedure is approved by the Contractor's Geotechnical Engineer and the Owner's Representative, use a premixed mud slurry to stabilize the excavation. Maintain the slurry level in the excavation above any unstable zones a sufficient distance to prevent caving or sloughing of those zones but no less than 5 feet above the groundwater level.

2. Set temporary surface casing to contain the slurry, unless waived by the Owner's Representative.

G. Concreting Method

1. Concreting of the drilled pier shall be completed the same day that the excavation is complete. If this is not possible, the excavation will be required to be redrilled, cleaned, and slurry tested before concreting.

2. Place concrete by tremie method or by pumping. Use tremie or pump pipes made of steel and with watertight joints. Use tremie pipe with a minimum diameter of 8 inches or pump pipe with a minimum diameter of 4 inches.

3. Use a capped or pig-plugged tremie or pump pipe inserted and seated in the excavation at the bottom of the pier prior to commencement of the concrete placement.

4. If a capped pipe is used, use tremie or pump pipe with a seal consisting of a bottom plate, or a device acceptable to the Contractor's Geotechnical Engineer, that seals the bottom of the pipe until the pipe reaches the hole bottom. Place enough concrete in the pipe to prevent the flow of slurry into the tremie pipe when it is lifted off the bottom.

5. If a plug is used, set the open tremie pipe loosely on the bottom. Insert the pig at the top and then place concrete pushing the plug ahead, separating the concrete from the slurry. Take care to ensure that the plug is properly sized to fit in the pipe, and keep the concrete separate from the slurry so that all slurry is expelled from the pipe during the initial charging process. When the pipe is fully filled with concrete, lift the pipe off the bottom the minimum amount needed to start the concrete flowing. Once concrete flow has started, place concrete into tremie at a fast enough rate to maintain a positive head of concrete inside pipe relative to slurry level outside pipe.

6. Embed tremie of pump pipe sufficiently in concrete to maintain seal throughout concrete placement to prevent re-entry of slurry suspension into the pipe. Provide minimum embedment of 5 feet. If the seal is lost, withdraw pipe, replace the seal, and re-start tremie using a capped tremie or capped pump pipe.

7. Displace out of the pier or remove from the pier the first portion of concrete that

comes to the top of the pier that contains concrete contaminated with slurry until acceptable concrete is visible. Add or remove concrete to specified cutoff level.

8. Raise or lower the tremie pipe in an acceptable manner that does not break the seal and does not cause channelization or segregation.

9. Pump the displaced slurry to holding tanks. Do not allow slurry to spill onto or contaminate the site. Do not use excavated slurry pits, unless accepted by the Owner's Representative.

3.7 CONSTRUCTION TOLERANCES

A. Plan Location: The tolerance on plan location for the top of the drilled pier shall not be more than 1/24 of the pier diameter or 3" in any direction, whichever is less. If the as-installed shaft is larger than required, the center of the shaft may be taken as the center of a shaft having the required area that lies wholly within the as-installed shaft.

B. Plumbness: Permissible tolerance for plumbness shall be 1.5% of the length. The centers of the top and bottom may be taken as the center of the required area that lies wholly within the as-installed area.

C. Bottom Area: The bottom of the pier shall be essentially horizontal within a tolerance of 1 vertical to 12 horizontal with the area of the bottom bearing not less than 98% of that specified on the drawings.

D. Top Area: The Contractor shall remove excess concrete at the top of the pier beyond the limits of the pier diameter. The pier top diameter shall be the same diameter as the shaft below. Piers extending above the ground surface shall be formed.

E. Concrete Cut-Off Elevation: Concrete cut-off elevation at the pier top shall be plus one inch to minus three inches.

F. Battered Piers: Battered piers shall be installed within 5% of the length from the specified inclination.

G. Anchorage Embedment Tolerance: Vertical and horizontal deviation from design location for individual anchorage components embedded in the pier shall not exceed ± 0.5 inches.

H. If any of the above tolerances are exceeded, the Architect/Engineer shall immediately be notified to evaluate the eccentricity in the pier and recommend corrective measures. The cost of re-engineering and corrective construction shall be borne by the Contractor.

3.8 PERMANENT STEEL CASINGS

A. Requirement: Provide permanent steel casings where shown on the drawings of sufficient strength to withstand handling stresses, concrete pressure, and surrounding earth and/or fluid pressures. Provide casings with minimum outside diameter equal to nominal outside diameter of shaft. Wall thickness shown on the drawings is a minimum required for design

purposes. The Contractor is responsible for increasing thickness as required for the installation process.

B. Steel Pipe Casings: Provide steel pipe casings as shown on the drawings delivered in sections of any convenient length. Connect sections by continuous complete penetration welds performed according to AWS standards by certified welders during placement into drilled pier shaft excavation. Splice location and details shall be submitted for approval on steel pipe casing shop drawings. Design bottom edge of lowest casing section to provide cutting shoe for penetrating into rock strata and affecting water seal.

C. Corrugated Steel Casings: Provide corrugated steel casings formed of galvanized or bituminous-coated steel sheets. Corrugated steel casings may be delivered in any convenient section of panel, with sections or panels field connected in accordance with manufacturer's instructions.

D. Installation: Install permanent steel casing as excavation work progresses to ensure stability of drilled pier shaft walls. Remove and replace or repair casings which are damaged during installation and which could impair strength or efficiency of completed drilled pier.

E. Fill the void space between permanent casing and shaft excavation or between permanent liner and temporary casing with fluid grout by means of grout pipe and pump pressure as required to achieve uniform void filling.

3.9 INSPECTIONS AND TESTS FOR DRILLED PIER EXCAVATIONS

A. Verification of Design: Bottom elevations, bearing and/or skin friction capacities and lengths of drilled piers as shown on the drawings are estimated from available subsurface data. Actual elevations, pier lengths, and bearing and/or skin friction capacities will be determined by the Contractor’s Geotechnical Engineer from conditions found in the excavations.

For piers bearing on rock, a rock core shall be taken for a depth equal to one pier diameter below the bottom of the pier for observation and possible testing by the Contractor’s Geotechnical Engineer to confirm rock quality below the bearing elevation.

B. Notification of Architect/Engineer: If field conditions differ from the data and design recommendations outlined in the Geotechnical Report, the Contractor’s Geotechnical Engineer shall notify the Architect/Engineer immediately.

C. Additional Tests: Additional tests may be required by the Contractor’s Geotechnical Engineer to determine new design criteria. Such tests shall be made as quickly as possible so as not to delay the concreting operations any longer than absolutely required.

D. Observation Requirements: Each drilled pier shall be inspected by the authorized inspector and approved prior to placement of concrete.

E. Cooperation with Testing and Inspection Personnel: The Contractor shall provide facilities as required to assist in the inspection and testing of the excavations, and cooperate with the inspecting and testing personnel to expedite the work.

F. Notification of Observer: The Contractor shall notify the authorized observer at least twelve hours prior to the time the excavation will be ready for inspection. Drilled shaft installation shall not proceed without the authorized observer on site.

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END OF SECTION 31 63 29

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Warm-mix asphalt paving.
2. Warm-mix asphalt overlay.
3. Cold milling of existing asphalt pavement.
4. Warm-mix asphalt patching.

B. Related Requirements:

1. Section 312000 "Earth Moving - Site" for subgrade preparation, fill material, separation geotextiles, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.
2. Section 321313 "Concrete Paving" for concrete pavement and for separate concrete curbs, gutters, and driveway aprons.
3. Section 321373 "Concrete Paving Joint Sealants" for joint sealants and fillers at pavement terminations.
4. New York State Department of Transportation (NYSDOT) standard specification adopted May 1, 2025 and all section and articles reference thereto and as amended.
5. City of Buffalo Department of Public Works Division of Engineering: Standards and Specifications for Construction and Materials, dated January 1, 1988 and all sections and articles reference thereto and as amended.

1.3 ACTION SUBMITTALS

A. Product Data: Include technical data and tested physical and performance properties.

1. Herbicide.
2. Joint sealant.

B. Warm-Mix Asphalt Designs:

1. Certification, by authorities having jurisdiction, of approval of each warm-mix asphalt design proposed for the Work.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For paving-mix manufacturer.

B. Material Certificates: Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.

1. Aggregates.
2. Asphalt binder.
3. Asphalt cement.
4. Cutback prime coat.
5. Emulsified asphalt prime coat.
6. Tack coat.
7. Fog seal.
8. Undersealing asphalt.

C. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by NYSDOT.

B. Testing Agency Qualifications: Qualified in accordance with ASTM D3666 for testing indicated.

C. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of NYSDOT for asphalt paving work.

1.6 FIELD CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Prime Coat: Minimum surface temperature of 60 deg F.
2. Tack Coat: Minimum surface temperature of 60 deg F.
3. Slurry Coat: Comply with weather limitations in ASTM D3910.
4. Asphalt Base Course and Binder Course: Minimum surface temperature of 40 deg F and rising at time of placement.
5. Asphalt Surface Course: Minimum surface temperature of 50 deg F at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

B. Coarse Aggregate: Meeting NYSDOT 703-02, sound, angular crushed stone, crushed gravel.

C. Fine Aggregate: Meeting NYSDOT 703-01, sharp-edged natural sand and sand prepared from stone, gravel, cured blast furnace slag, or combination of thereof.

1. For warm-mix asphalt, limit natural sand to a maximum of 10 percent by weight of the total aggregate mass.

2.2 ASPHALT MATERIALS

A. Asphalt Top Course: Meeting NYSDOT 9.5 F2 Top Course WMA, 80 series compaction

B. Asphalt Binder Course: Meeting NYSDOT 19 F9 Binder Course WMA, 80 series compaction.

C. Asphalt Cement: Meeting NYSDOT Table 702-2 Miscellaneous Asphalt Cement.

D. Tack Coat: ASTM D977 emulsified asphalt, or ASTM D2397 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

E. Water: Potable.

2.3 AUXILIARY MATERIALS

A. Recycled Materials for Warm-Mix Asphalt Mixes: Reclaimed asphalt pavement; reclaimed, unbound-aggregate base material; and recycled glass from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required warm-mix asphalt paving produced from all new materials.

B. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to begin paving.

B. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protection: Provide protective materials, procedures, and worker training to prevent asphalt materials from spilling, coating, or building up on curbs, driveway aprons, manholes, and other surfaces adjacent to the Work.

B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.
2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Owner’s Testing Agency, and replace with compacted backfill or fill as directed.

3.3 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.

1. Mill to a depth of 1-1/2 inches.
2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.
3. Control rate of milling to prevent tearing of existing asphalt course.
4. Repair or replace curbs, driveway aprons, manholes, and other construction damaged during cold milling.
5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled warm-mix asphalt.
6. Patch surface depressions deeper than 1 inch after milling, before wearing course is laid.
7. Keep milled pavement surface free of loose material and dust.
8. Do not allow milled materials to accumulate on-site.

3.4 SURFACE PREPARATION

A. Ensure that prepared subgrade has been proof-rolled and is ready to receive paving. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.

B. Herbicide Treatment: Apply herbicide in accordance with manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd..

1. Allow tack coat to cure undisturbed before applying warm-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.5 Warm-MIX ASPHALT PLACEMENT

A. Machine place warm-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place warm-mix asphalt binder course in single lifts.
2. Place warm-mix asphalt surface course in single lift.
3. Spread mix at a minimum temperature of 250 deg F.
4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches from strip to strip to ensure proper compaction of mix along longitudinal joints.
2. Complete a section of asphalt base course and binder course before placing asphalt surface course.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with warm-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.6 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of warm-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.
2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
3. Offset transverse joints, in successive courses, a minimum of 24 inches.
4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."
5. Compact joints as soon as warm-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.7 COMPACTION

A. General: Begin compaction as soon as placed warm-mix paving will bear roller weight without excessive displacement. Compact warm-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 230 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while warm-mix asphalt is still hot enough to achieve specified density. Continue rolling until warm-mix asphalt course has been uniformly compacted to the following density:

1. Average Density, Marshall Test Method: 96 percent of reference laboratory density in accordance with ASTM D6927, but not less than 94 percent or greater than 100 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while warm-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, warm-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.8 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:

1. Base Course and Binder Course: Plus or minus 1/2 inch.
2. Surface Course: Plus 1/4 inch, no minus.

B. Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:

1. Base Course and Binder Course: 1/4 inch.
2. Surface Course: 1/8 inch.
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Thickness: In-place compacted thickness of warm-mix asphalt courses will be determined in accordance with ASTM D3549.

C. Surface Smoothness: Finished surface of each warm-mix asphalt course will be tested for compliance with smoothness tolerances.

D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement in accordance with ASTM D979.

1. Reference maximum theoretical density will be determined by averaging results from four samples of warm-mix asphalt-paving mixture delivered daily to site, prepared in accordance with ASTM D2041, and compacted in accordance with job-mix specifications.
2. In-place density of compacted pavement will be determined by testing core samples in accordance with ASTM D1188 or ASTM D2726.

    a. One core sample will be taken for every 10,000 sq. ft. or less of installed pavement, with no fewer than three cores taken.
    b. Field density of in-place compacted pavement may also be determined by nuclear method in accordance with ASTM D2950 and coordinated with ASTM D1188 or ASTM D2726.

E. Replace and compact warm-mix asphalt where core tests were taken.

F. Remove and replace or install additional warm-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.10 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

END OF SECTION 321216

SECTION 32 13 13 – CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes Concrete Paving**:**

1. Concrete pavements
2. Curbs and gutters.
3. Sidewalks, walkways.

B. Related Requirements:

1. Section 033000 "Cast-in-Place Concrete" for general building applications of concrete.
2. Section 321373 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and asphalt paving or adjacent construction.
3. Section 321723 "Pavement Markings."
4. Section 321726 "Tactile Warning Surfacing".
5. New York State Department of Transportation (NYSDOT) standard specification adopted January 1, 2020 and all section and articles reference thereto and as amended.
6. City of Buffalo Department of Public Works Division of Engineering: Standards and Specifications for Construction and Materials, dated January 1, 1988 and all sections and articles reference thereto and as amended.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash, slag cement, and other pozzolans.

B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified ready-mix concrete manufacturer.

B. Material Certificates: For the following, from manufacturer:

1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Fiber reinforcement.
4. Admixtures.
5. Curing compounds.
6. Applied finish materials.
7. Bonding agent or epoxy adhesive.
8. Joint fillers.

C. Material Test Reports: For each of the following:

1. Aggregates: Include service-record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.

D. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94 requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

1.7 FIELD CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

B. Cold-Weather Concrete Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:

1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
2. Do not use frozen materials or materials containing ice or snow.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.

C. Hot-Weather Concrete Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover steel reinforcement with water-soaked burlap, so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless otherwise indicated.

2.2 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.3 STEEL REINFORCEMENT

A. Plain-Steel Welded-Wire Reinforcement: ASTM A185, fabricated from as-drawn steel wire into flat sheets.

B. Plain-Steel Wire: ASTM A1064, as drawn.

C. Joint Dowel Bars: ASTM A615, Grade 60 plain-steel bars. Cut bars true to length with ends square and free of burrs.

D. Tie Bars: ASTM A615, Grade 60; deformed.

E. Hook Bolts: ASTM A307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against paving form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.

F. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded-wire reinforcement, and dowels in place. Manufacture bar supports

according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.

2.4 CONCRETE MATERIALS

A. Cementitious Materials: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C150/C150M, gray portland cement Type I or Type II.
2. Fly Ash: ASTM C618, Class C or Class F.

B. Normal-Weight Aggregates: ASTM C33/C33M, Class 4S, uniformly graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: #57.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Air-Entraining Admixture: ASTM C260/C260M.

D. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

1. Water-Reducing Admixture: ASTM C494, Type A.
2. Retarding Admixture: ASTM C494, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C494, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C494, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C494, Type G.
6. Plasticizing and Retarding Admixture: ASTM C1017, Type II.

E. Water: Potable and complying with ASTM C94.

2.5 FIBER REINFORCEMENT

A. Synthetic Fiber: Monofilament polypropylene fibers engineered and designed for use in decorative concrete paving, complying with ASTM C1116/C1116M, Type III, 1/2 to 1-1/2 inches long.

2.6 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd..

B. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B, dissipating.

2.7 RELATED MATERIALS

A. Joint Fillers: ASTM D1751, asphalt-saturated cellulosic fiber in preformed strips.

B. Bonding Agent: ASTM C1059/C1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

2.8 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.

1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that comply with or exceed requirements.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Combined Fly Ash or Pozzolan, and Slag Cement: 50 percent, with fly ash or pozzolan not exceeding 25 percent.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 6 percent plus or minus 1-1/2 percent for #57 maximum aggregate size.

D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use high-range, water-reducing and retarding admixture in concrete as required for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

F. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd..

G. Concrete Mixtures: Normal-weight concrete.

1. Compressive Strength (28 Days): **5000 psi.**
2. Maximum W/C Ratio at Point of Placement: 0.40.
3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Maximum Coarse Aggregate Size, ASTM C33: #57.
5. Air Content: 6%, plus or minus 1-1/2%.

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C94 and ASTM C1116. Furnish batch certificates for each batch discharged and used in the Work.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.

1. Completely proof-roll subbase in one direction. Limit vehicle speed to 3 mph.
2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch according to requirements in Section 312000 "Earth Moving - Site."

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT INSTALLATION

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded-wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
2. Butt Joints: Use bonding agent at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
3. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.
4. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

1. Locate expansion joints at intervals of 60 feet unless otherwise indicated.
2. Extend joint fillers full width and depth of joint.
3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
4. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
5. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:

1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.

2. Doweled Contraction Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.

B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to fresh concrete after testing.

F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies**,** reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement and joint devices.

H. Screed paving surface with a straightedge and strike off.

I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleedwater appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

J. Curbs and Gutters: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface, perpendicular to line of traffic, to provide a uniform, fine-line texture.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture-retaining-cover curing, curing compound or a combination of these as follows:

1. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period, using cover material and waterproof tape.
2. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.9 PAVING TOLERANCES

A. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 3/4 inch.

2. Thickness: Plus 3/8 inch, minus 1/4 inch.
3. Surface: Gap below 10-feet-long; unleveled straightedge not to exceed 1/2 inch.
4. Lateral Alignment and Spacing of Dowels: 1 inch.
5. Vertical Alignment of Dowels: 1/4 inch.
6. Joint Spacing: 3 inches.
7. Contraction Joint Depth: Plus 1/4 inch, no minus.
8. Joint Width: Plus 1/8 inch, no minus.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Services: Testing and inspecting of composite samples of fresh concrete obtained according to ASTM C172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain at least one composite sample for each 5000 sq. ft. or fraction thereof of each concrete mixture placed each day.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C31; cast and laboratory cure one set of at least four standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C39; test one specimen at seven days and two specimens at 28 days.

    a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.

C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.

G. Concrete paving will be considered defective if it does not pass tests and inspections.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

I. Prepare test and inspection reports.

3.11 REPAIR AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.

B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.

C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

3.12 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

END OF SECTION 321313

SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.
2. Joint-sealant backer materials.
3. Primers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.

1.5 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D5893, Type SL.

1. DOWSIL 756 SMS Building Sealant as manufactured by The Dow Chemical Company or approved equivalent.

2.3 JOINT-SEALANT BACKER MATERIALS

A. Joint-Sealant Backer Materials: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant manufacturer, based on field experience and laboratory testing.

2.4 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

B. Joint Priming: Prime joint substrates where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions.

C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of joint-sealant backings.
2. Do not stretch, twist, puncture, or tear joint-sealant backings.
3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:

1. Place joint sealants so they fully contact joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.

B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.5 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

END OF SECTION 321373

SECTION 32 17 23 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Painted markings applied to asphalt paving.
2. Painted markings applied to concrete surfaces.

1.3 ACTION SUBMITTALS

A. Product Data: Include technical data and tested physical and performance properties.

1. Pavement-marking paint, acrylic.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of City of Buffalo for pavement-marking work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 55 deg F for water-based materials, and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain pavement-marking paints from single source from single manufacturer.

2.2 PAVEMENT-MARKING PAINT

A. Pavement-Marking Paint, Acrylic: Acrylic, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952F, Type II, with drying time of less than three minutes.

1. Color: White.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that pavement-marking substrate is dry and in suitable condition to begin pavement marking in accordance with manufacturer's written instructions.

B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

3.2 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.

B. Allow asphalt paving or concrete surfaces to age for a minimum of 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

3.3 PROTECTING AND CLEANING

A. Protect pavement markings from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.4 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

END OF SECTION 321723

SECTION 32 17 26 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cast-in-place detectable warning tiles.

B. Related Requirements:

1. Section 321313 "Concrete Paving" for concrete walkways serving as substrates for tactile warning surfacing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For tactile warning surfacing, to include in maintenance manuals.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of tactile warning surfaces that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering and wear.
b. Separation or delamination of materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING, GENERAL

A. Accessibility Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for tactile warning surfaces.

1. For tactile warning surfaces composed of multiple units, provide units that when installed provide consistent side-to-side and end-to-end dome spacing that complies with requirements.

B. Source Limitations: Obtain each type of tactile warning surfacing from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

2.2 DETECTABLE WARNING TILES

A. Cast-in-Place Detectable Warning Tiles: Accessible truncated-dome detectable warning tiles with replaceable surface configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.

1. Material: Cast-fiber-reinforced polymer concrete tile.
2. Color: Dark Gray.
3. Shapes and Sizes:

    a. Rectangular panel, 24 inches by manufacturer’s standard lengths.

4. Dome Spacing and Configuration: Manufacturer's standard compliant spacing, in manufacturer's standard pattern.
5. Mounting:

    a. Permanently embedded detectable warning tile wet-set into freshly poured concrete.
    b. Replaceable detectable warning tile wet-set into freshly poured concrete and surface-fastened to permanently embedded anchors.

2.3 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of tactile warning surfaces, noncorrosive and compatible with each material joined, and complying with the following:

1. Furnish Type 304 stainless-steel fasteners for exterior use.
2. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant heads, colored to match tile.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that pavement is in suitable condition to begin installation according to manufacturer's written instructions. Verify that installation of tactile warning surfacing will comply with accessibility requirements upon completion.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF TACTILE WARNING SURFACING

A. General: Prepare substrate and install tactile warning surfacing according to manufacturer's written instructions unless otherwise indicated.

B. Place tactile warning surfacing units in dimensions and orientation indicated. Comply with location requirements of AASHTO MP 12.

3.3 INSTALLATION OF DETECTABLE WARNING TILES

A. Removable Cast-in-Place Detectable Warning Tiles:

1. Concrete Paving Installation: Comply with installation requirements in Section 321313 "Concrete Paving." Mix, place, and finish concrete to conditions complying with detectable warning tile manufacturer's written requirements for satisfactory embedment of removable tile.
2. Set each detectable warning tile accurately and firmly in place with embedding anchors and fasteners attached, and firmly seat tile back in wet concrete by tamping or vibrating. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
3. Set surface of tile flush with surrounding concrete and adjacent tiles, with variations between tiles and between concrete and tiles not exceeding plus or minus 1/8 inch (3 mm) from flush.
4. Protect exposed surfaces of installed tiles from contact with wet concrete. Complete finishing of concrete paving surrounding tiles. Remove concrete from tile surfaces.
5. Clean tiles using methods recommended in writing by manufacturer.

3.4 CLEANING AND PROTECTION

A. Remove and replace tactile warning surfacing that is broken or damaged or does not comply with requirements in this Section. Remove in complete sections from joint to joint unless otherwise approved by Architect. Replace using tactile warning surfacing installation methods acceptable to Architect.

B. Protect tactile warning surfacing from damage and maintain free of stains, discoloration, dirt, and other foreign material.

3.5 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project's Waste Management Plan.

END OF SECTION 321726

SECTION 32 90 00 - LANDSCAPE WORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections apply to work specified in this section.

1.2 DESCRIPTION OF WORK

A. Subgrade elevations: Excavation, filling and grading required to establish elevations are not specified in this section.

B. Section Includes:
1. Planting soil
2. Seeding
3. Hydroseeding
4. Turf renovation
5. Planting of shrubs and other plants

1.3 REFERENCE STANDARDS

A. ANSI/AHIA Z60.1 - American National Standard for Nursery Stock.

B. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.4 QUALITY ASSURANCE

A. Landscape and seeding work are to be performed by a contracting firm or firms specializing in landscape and seeding work. Contractor must submit proof to the Engineer that they meet the following experience requirements:
1. Successfully completed a contract of similar work in an amount of not less than fifty percent of the amount of the proposed contract within the last 5 years.
2. Seventy-five percent of all the Contractor’s work in the last 3 years must have consisted of contracts in which a majority percentage of the contract sum was for the installation of plant material. List must include Owner’s name, project site, and contract amount.
3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
4. Pesticide Applicator: State licensed, commercial.

B. Soil Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.
1. Multiple Laboratories: At Contractor's option, work may be divided among qualified testing laboratories specializing in physical testing, chemical testing, and fertility testing.

C. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI/AHIA Z60.1.

D. Measurements: Measure according to ANSI/AHIA Z60.1. Do not prune to obtain required sizes.
   1. Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of shrub for height and spread; do not measure branches or roots tip to tip.

E. Plant Material Observation: Engineer may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Engineer may also observe shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected shrubs immediately from Project site.

1.5 SUBMITTALS

A. Qualification Data: For Landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.

B. Product Data: For each type of product.

C. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

D. Product Certificates: For fertilizers, from manufacturer.

E. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

F. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.

G. Planting Schedule: Submit planting schedule showing scheduled dates for each type of planting in each area of site. Once accepted, revise dates only as accepted in writing by the Engineer, after documentation of reasons for delay.

H. Off-Site Topsoil: Before delivery of topsoil from off-site sources, furnish Engineer with written statement giving location of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown during the past 2 years.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.

B. Bulk Materials:
   1. Do not dump or store bulk materials near structures, utilities, walkways and pavements,

or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Do not move or handle materials when they are wet or frozen.
4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates

C. Do not prune shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

D. Handle planting stock by root ball.

E. Wrap shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

F. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

1.7 JOB CONDITIONS

A. Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.

B. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is approved by parties concerned.

C. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Engineer before planting.

D. Plant or install materials during normal planting seasons for each type of landscape work required. Correlate planting with specified maintenance periods to provide maintenance from date of substantial completion.

E. Plant and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Engineer. If planting of shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

F. Do not damage previously installed shrubs.

G. Observe precautionary measures to protect existing paved areas against damage during the planting operation.

H. Work Notification: Notify Engineer at least 48 hours in advance of the time Contractor intends to seed, and do not proceed with such work until permission has been granted.

I. Perform seeding work only after planting and other work affecting ground surface has been completed.

J. Seeding shall take place during normal planting seasons as established below. Actual weather conditions and seasonal variations will determine when seeding is warranted.
   1. Time of Seeding
      a. Seeding operations shall not occur at a time when the soil or backfill is frozen or the soil is saturated.
      b. Seeding seasons shall be April 1st to June 6th and August 20th to October 31st.
      c. When delays in operations carry the work beyond the seasons specified, or when conditions of high winds (winds that exceed 5 mph velocity), drought, excessive moisture or ice are such that satisfactory results are not likely to be obtained at any stage of the work, the work will stop. Seeding work shall be resumed only when the desired results are likely to be obtained or when the Authority and/or Engineer accepts a corrective measure and procedure.
      d. Dormant seeding may take place after November 15, but prior to continuous soil freeze. Success of dormant seeding determined at Engineer's discretion.
      e. Soil conditions shall prevail when the time of planting is in dispute.

K. Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.

1.8 SPECIAL PROJECT WARRANTY

A. Warranty lawns through specified maintenance period, and until final acceptance.

B. The Contractor at his expense through the use of fences, barricades, or other physical barriers shall protect newly seeded areas from foot traffic or vehicular trespass. Contractor shall monitor, repair, or replace barriers as necessary or as required by the Engineer.

C. The Contractor shall replace displaced mulch, remove eroded topsoil and adjust or replace disturbed seeded areas.

D. Plant Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by the Authority.
      b. Structural failures including plantings falling or blowing over.
   2. Warranty Periods: From date of final acceptance.
      a. Shrubs, Vines, and Ornamental Grasses: 12 months.
      b. Ground Covers, Biennials, Perennials, and Other Plants: 6 months.
   3. Include the following remedial actions as a minimum:
      a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
      b. Replace plants that are more than 33 percent dead or in an unhealthy condition at end of warranty period.
      c. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.

d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

4. The time for replacing unsatisfactory plants shall be determined by the Engineer, or no later than the next succeeding planting season. Plants that are dead or that are in unhealthy or unsightly condition or that have lost their natural shape due to dead branches, excessive pruning or inadequate or improper maintenance, as determined by the Engineer, shall be removed from the site and replaced with plants as originally specified, at no cost to the the Authority. Plant replacement shall take place as is reasonably possible after their unsatisfactory condition is evident.

1.9 SOIL TESTING REQUIREMENTS

A. General: Perform tests on soil samples according to requirements in this article.

B. Physical Testing:
1. Soil Texture: Soil-particle, size-distribution analysis by one of the following methods according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods":
a. Sieving Method: Report sand-gradation percentages for very coarse, coarse, medium, fine, and very fine sand; and fragment-gradation (gravel) percentages for fine, medium, and coarse fragments; according to USDA sand and fragment sizes.
b. Hydrometer Method: Report percentages of sand, silt, and clay.

C. Fertility Testing: Soil-fertility analysis according to standard laboratory protocol of SSSA NAPT NEC-67, including the following:
1. Percentage of organic matter.
2. Soil reaction (acidity/alkalinity pH value).
3. Nitrogen ppm.
4. Phosphorous ppm.
5. Potassium ppm.
6. Soluble-salts ppm.

D. Recommendations: Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated to produce satisfactory planting soil suitable for healthy, viable plants indicated. Include, at a minimum, recommendations for nitrogen, phosphorous, and potassium fertilization, and for micronutrients.
1. Fertilizer Rates: State recommendations in weight per 1000 sq. ft. for 4 inch depth of soil.
2. Soil Reaction: State the recommended liming rates for raising pH or sulfur for lowering pH according to the buffered acidity or buffered alkalinity in weight per 1000 sq. ft. for 4 inch depth of soil.

PART 2 PRODUCTS

2.1 TOPSOIL

A. Existing or Imported Topsoil: Shall be fertile, friable soil containing less than 10 percent total volume of the combination of subsoil, refuse, roots larger than 1 inch diameter, heavy, sticky or stiff clay, stones larger than 2 inches in any dimension. Topsoil shall be suitable for the germination of seeds and the support of vegetative growth. Imported Topsoil shall not contain

noxious weed seeds in quantities that cause noticeable weed infestations in the final planting beds.

1. Soil Texture: USDA loam, sandy clay loam or sandy loam with clay content between 15 and 25 percent and a combined clay/silt content no greater than 55 percent.
2. pH shall be between 5.5 and 7.0
3. Percent organic matter shall be between 2 and 5 percent%
4. Soluble salt level less than 2 mmho/cm
5. Soil chemistry suitable for growing the plants specified.

B. Unacceptable Properties: Topsoil shall not contain the following:
1. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
2. Large Materials: Stones, roots, clay lumps, and pockets of coarse sand exceeding 2 inches in any dimension.

C. Imported topsoil shall be harvested from fields or development sites. The organic content and particle size distribution shall be the result of natural soil formation. Manufactured soils where coarse sand, organic material or chemicals have been added to meet the requirements of Topsoil shall not be acceptable.

2.2 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
1. Class: T, with a minimum of 99 percent passing through a No. 8 sieve and a minimum of 75 percent passing through a No. 60 sieve.
2. Form: Provide lime in form of ground dolomitic limestone.

B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 sieve and a maximum of 10 percent passing through a No. 40 sieve.

2.3 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.

B. Seed species:
1. For lawn areas (Seeding rate 5 lbs. per 1,000 sq. ft.):
a. 34% Blend of 3 perennial ryegrass species
b. 33% Creeping Red Fescue species
c. 33% Kentucky Bluegrass species

2.4 FERTILIZERS

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb per 1,000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

2.5 MULCHES

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

C. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

D. Organic Mulch for Shrubs: Free from deleterious materials and suitable as a top dressing of shrubs, consisting of the following:
1. Type: Double hammered seasoned hardwood mulch as commercially available

2.6 PESTICIDES

A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.

C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

2.7 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI/AHIA Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.

C. Provide plants of sizes, grades, and ball or container sizes complying with ANSI/AHIA Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Engineer, with a proportionate increase in size of roots or balls.

D. Root-Ball Depth: Furnish shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI/AHIA Z60.1. Root flare shall be visible before planting.

E. Labeling: Label each plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.

2.8 MISCELLANEOUS PRODUCTS

A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
   1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
   2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
   3. Uniformly moisten excessively dry soil that is not workable or which is dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Engineer and replace with new planting soil.

3.2 PREPARATION

A. Protect structures; utilities; sidewalks; pavements; and other facilities, shrubs, and plantings from damage caused by planting operations.
   1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
   2. Protect grade stakes set by others until directed to remove them.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

A. General: Prepare planting area for soil placement and mix planting soil.

B. Subgrade Preparation: Scarify subgrade to a minimum depth of 4 inches. Remove stones larger than 3 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off the Authority's property.

C. Spread topsoil to minimum depth of 4 inches to meet lines, grades and elevations shown, after natural settlement.

D. Soil Amendments: Apply lime or sulfur as recommended by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 3 inches by dicing or other approved method.

E. Fertilizing (For Conventional Seeding Method Only)
   1. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 3 inches by dicing or other approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.

F. Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll and rake and remove ridges and fill depressions, as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading.
   1. Where seeded area is adjacent to pavement such as walks, curbs, parking lots, etc., the topsoil shall be no more than 1/2 inch below pavement surface prior to the seeding operation.

G. The borders of the area of ground disturbed shall be merged by "feathering" topsoil into surrounding surface areas by compacting, raking or other means, to permit water run-off and to present a uniform slope and transition.

H. Clean and clear all obstructions from drainage structures, ditches, swales, as may be necessary to provide a clean, open, free running passageway for all surface water.

I. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

J. Before planting, obtain Engineer's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 CONVENTIONAL SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.
   1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
   2. Do not use wet seed or seed that is moldy or otherwise damaged.
   3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Sow seed at rate indicated.

C. Rake seed lightly into top 1/8 inch of soil, and water with fine spray.

D. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons per acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
   1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

3.5 HYDROSEEDING

A. Hydroseeding: Mix specified seed, commercial fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
   1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
   2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb per acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.

3.6 TURF RENOVATION

A. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
   1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
   2. Install Topsoil as required.

B. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.

C. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.

D. Mow, dethatch, core aerate, and rake existing turf.

E. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.

F. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off the Authority's property.

G. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.

H. Apply soil amendments and initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.

I. Apply seed and protect with straw mulch or hydroseed as required for new turf.

J. Water and maintain newly planted areas and keep moist until new turf is satisfactory.

3.7 TURF MAINTENANCE

A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and re mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
   1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
   2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain grass height at 2 inches.

3.8 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Engineer:
1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 100 sq. ft.

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.9 EXCAVATION FOR SHRUBS

A. Planting Pits and Trenches: Excavate circular planting pits.
1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
2. Excavate approximately three times as wide as ball diameter for plant stock.
3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
4. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
5. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
6. Maintain supervision of excavations during working hours.
7. Keep excavations covered or otherwise protected when unattended by Installer's personnel.

B. Backfill Soil: Topsoil unless otherwise indicated.

C. Obstructions: Notify Engineer if unexpected rock or obstructions detrimental to shrubs are

encountered in excavations.

D. Drainage: Notify Engineer if subsoil conditions evidence unexpected water seepage or retention in shrub planting pits.

3.10 SHRUB PLANTING

A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI/AHIA Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most structural root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.

C. Balled and Burlapped Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
   1. Backfill: Topsoil.
   2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
   3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
   4. Continue backfilling process. Water again after placing and tamping final layer of soil.

D. Container-Grown Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
   1. Backfill: Topsoil.
   2. Carefully remove root ball from container without damaging root ball or plant.
   3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
   4. Continue backfilling process. Water again after placing and tamping final layer of soil.

E. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.11 SHRUB POST PLANTING PRUNING

A. Upon completion of planting, all shrubs shall be pruned and injuries repaired. The amount of pruning shall be limited to the minimum number of cuts necessary to remove dead or injured twigs and branches. Pruning shall be done in such a manner as not to change the natural habit or shape of the plant. All cuts shall be made at the branch collar without leaving a protruding stub. Pruning shall be in accordance with ANSI A300 Part 1 Maintenance Pruning objectives. Remove only dead, dying, or broken branches. Do not prune for shape.

B. Do not apply pruning paint to wounds.

3.12 SHRUB PLANTING AREA MULCHING

A. Mulch backfilled surfaces of planting areas and other areas indicated.
   1. Mulch in Planting Areas: Apply 3-inch average thickness of organic mulch extending minimum 6 inches beyond drip edge of individual plants or over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

3.13 SHRUB MAINTENANCE

A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.

B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.14 CLEANUP AND PROTECTION

A. During landscape work keep pavements clean and work area in an orderly condition.

B. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work.

C. Remove construction equipment, excess materials and tools. Haul from site debris resulting from work of this section, and dispose of legally, and to the satisfaction of the Engineer.

3.15 INSPECTION AND ACCEPTANCE

A. When landscape work is completed, including maintenance, the Engineer will examine the work to determine compliance. Landscape work may be examined for acceptance in parts as determined by the Engineer, provided work offered for examination is complete, including maintenance.

B. Lawn areas will be considered acceptable provided all requirements, including maintenance, have been complied with, and a healthy, uniform, close stand of the specified grass is established free of weeds, undesirable grass species, disease, and insects.

C. Where landscape work does not comply with requirements, replace rejected work and continue specified maintenance until compliance with the specifications is achieved.

END OF SECTION 329000

SECTION 33 10 00 – WATER UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Extent of water distribution system work is shown on Drawings.

B. Water utilities work includes, but is not limited to, the following:

1. Piping
2. Valves
3. Hydrants
4. Testing
5. Disinfection

C. Comply with requirements of applicable Division 31 sections for excavation and backfilling required in connection with water distribution system.

D. Comply with requirements of applicable Division 03 sections for concrete work required in connection with water distribution system

E. Related Requirements:

1. City of Buffalo Division of Water Specifications: applicable for work associated with the City of Buffalo water mains and appurtenances.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations.

B. Field quality-control test reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For water valves and specialties to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.
3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.

B. Piping materials shall bear label, stamp, or other markings of specified testing agency.

C. Comply with ASTM F645 for selection, design, and installation of thermoplastic water piping.

D. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.

E. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.

1. Potable-water piping and components shall comply with NSF 14, NSF 61, and NSF 372.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:

1. Ensure that valves are dry and internally protected against rust and corrosion.
2. Protect valves against damage to threaded ends and flange faces.
3. Set valves in best position for handling. Set valves closed to prevent rattling.

B. During Storage: Use precautions for valves, including fire hydrants, according to the following:

1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.

C. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

D. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

E. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.

F. Protect flanges, fittings, and specialties from moisture and dirt.

G. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.8 PROJECT CONDITIONS

A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:

1. Notify Architect no fewer than five days in advance of proposed interruption of service.
2. Do not proceed with interruption of water-distribution service without Architect's written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in "Piping Application" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

B. Potable-water piping and components shall comply with NSF 14, NSF 61, and NSF 372.

2.2 DUCTILE-IRON WATER PIPE FOR DIRECT BURY

A. Ductile-Iron water pipe in sizes three inches (3") to sixty-four inches (64") in diameter inclusive will be centrifugally cast conforming with the applicable requirements of the AWWA Standard for Ductile-Iron Pipe, Centrifugally Cast for Water, ANSI/AWWA C151/A21.51- (latest revision), as manufactured by the U.S. Pipe Co. or equal.

B. Ductile-Iron pipe less than 16” diameter shall be Class 52 unless otherwise specified on the plans.

C. Mechanical and push-on joints for ductile-iron pipe shall conform to the AWWA Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings. ANSI/AWWA C111/A21.11- (latest revision).

D. All ductile-iron pipe shall be double thickness cement lined in accordance with the requirements of the AWWA Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water. ANSI/AWWA C104/A21.4 - (latest revision).

E. Integral restrained joint ductile-iron pipe shall be: “TR-Flex” joint as manufactured by McWane, Inc. or US Pipe; “Flex-Ring” as manufactured by American Cast Iron Pipe Co.; or approved equal.

1. Flexible restrained joint pipe shall be a boltless, glandless restraining system utilizing patented ductile iron locking segments or flex ring with factory applied spigot retainer weldment.
2. Weldments must be factory applied. Field applied weldments will not be allowed.

    a. Field cut pipe and joints requiring restraint must utilize wedge action retainer glands or a flexible restrained closure.

3. Pipe that utilizes gaskets with embedded restraining gripper or friction segments will not be acceptable.

2.3 DUCTILE IRON FLANGED PIPE AND FITTINGS

A. Ductile Iron Pipe with Threaded Flanges:

1. Pipe shall be centrifugally cast ductile iron conforming to the requirements of AWWA C151 and C115 for material, dimensions, tolerance, tests, markings, and other requirements.
2. Where required, pipe barrels and flanges shall have a taper pipe thread (NPT) in accordance with ANSI B1.20.1, with pipe diameters adapted to ductile iron pipe standard outside diameters.
3. Flanged pipe shall be minimum Class 52 thickness and shall be furnished in standard laying lengths as specified or required.

B. Joints for Ductile Iron Flanged Pipe and Fittings:

1. Flanged joints shall conform to the requirements of AWWA C110 and drilling and facing of flanges shall be in accordance with ANSI B16.1 Class 125 flanges unless otherwise specified.
2. Flanged ductile iron pipe and fittings shall be furnished complete with all necessary joint accessories consisting of natural or synthetic rubber gaskets, $^{1}/_{8}$-inch thick, full face; and, nuts, bolts and washers, unless otherwise specified.
3. All nuts, bolts and washers for flanges and accessories shall conform to ANSI B18.2.1 and ANSI B18.2.2, respectively and shall be Type 304 stainless steel, high strength, low alloy steel or fluorocarbon coated as specified herein.

C. Flange Fillers, Blind Flanges and Reducing Companion Flanges:

1. Conform to the requirements of AWWA C115 for material, dimensions, tolerance, tests, markings and other requirements.
2. Drilling and facing of flanges shall be in accordance with ANSI B16.1, Class 125 flanges unless otherwise specified.
3. Flanged fillers, blind flanges and reducing companion flanges shall be furnished complete with all necessary joint accessories consisting of natural or synthetic rubber gaskets, $^{1}/_{8}$-inch thick, full face; and, nuts, bolts and washers, unless otherwise specified.
4. Threaded outlets or taps, (Mueller threads), shall be provided in blind flanges as specified or required.
5. All nuts, bolts and washers for flanges and accessories shall conform to ANSI B18.2.1 and ANSI B18.2.2, respectively and shall be Type 304 stainless steel, high strength, low alloy steel.

2.4 DUCTILE IRON FITTINGS

A. Ductile Iron Fittings

1. Ductile Iron fittings for three (3") inch to sixty-four (64") inch ductile iron and polyvinyl chloride pipes shall be Class 350 Ductile-Iron and conform to the AWWA Standard for Ductile-Iron Compact Fittings for Water Service, ANSI/AWWA C153/A21.53-(latest revision) as manufactured by Tyler Pipe Co. or equal.
2. All ductile-iron fittings shall be double thickness cement lined in accordance with the requirements of the AWWA Standard for Cement - Mortar Lining for Ductile-Iron Pipe and Fittings for Water, ANSI/AWWA C104/A21.4- (latest revision).
3. All ductile-iron fittings shall have mechanical joint ends and be furnished with sufficient quantities of accessories. All nuts and tee bolts for fittings shall be Flourocarbon coated, high strength, corrosion resistant, low alloy steel and shall conform to AWWA C-111/A21.11-(latest revision). Restrained joints utilizing mechanical joint wedge action retainer glands will be required.
4. All field installed bolts for direct bury shall be capped with 6 ounce Zinc Anode cap nuts as manufactured by Maple Agencies, "Protecto-Cap"; Trumbell Industries, Inc.; or equal.
5. Integral restrained joint ductile-iron fittings shall be: "TR-Flex" joint as manufactured by McWane, Inc. or US Pipe; "Flex-Ring" as manufactured by American Cast Iron Pipe Co.; or approved equal.

    a. Flexible restrained joint fittings shall be a boltless, glandless restraining system utilizing patented ductile iron locking segments or flex ring with factory applied spigot retainer weldment.
    b. Weldments must be factory applied. Field applied weldments will not be allowed.
    c. Fittings connected to field cut pipes without weldments must be mechanical joint utilizing wedge action retainer glands.

        1) If flexible restrained joint fittings are used, a number of mechanical joint fittings must also be provided and on-hand to allow for field adjustments.

    d. Fittings that utilize gaskets with embedded restraining gripper or friction segments will not be acceptable.

B. Thrust blocks and mechanical restraints will be provided where fittings are used for direction changes as shown on the plans and details, and wherever specified by the Engineer.

2.5 PVC PIPE AND FITTINGS

A. PVC, AWWA Pipe: AWWA C900, Class 150, with bell end with gasket, and with spigot end.

1. Comply with UL 1285 for fire-service mains if indicated.
2. PVC Fabricated Fittings: AWWA C900, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
3. PVC Molded Fittings: AWWA C907, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
4. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

a. Gaskets: AWWA C111, rubber.

5. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

a. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

2.6 PIPING SPECIALTIES

A. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

B. Tubular-Sleeve Pipe Couplings:

1. Description: Metal, bolted, sleeve-type, reducing or transition coupling, with center sleeve, gaskets, end rings, and bolt fasteners and with ends of same sizes as piping to be joined.

a. Standard: AWWA C219.
b. Center-Sleeve Material: Manufacturer's standard.
c. Gasket Material: Natural or synthetic rubber.
d. Pressure Rating: 200 psig minimum.
e. Metal Component Finish: Corrosion-resistant coating or material.

2.7 GATE VALVES

A. Valves three inches (3”) to twelve inches (12”) shall be iron body with fusion bonded epoxy coating, and resilient seated conforming to the requirements of the AWWA Standard for Resilient-Seated Gate Valves, for Water Supply Service, ANSI/AWWA C509- (latest revision), as manufactured by the Mueller Co. or Kennedy Valve Mfg. Co. or approved equal.

B. All valves shall have non-rising stems, "0" ring seals (capable of being replaced under pressure), two inch (2") square operating nut, stainless steel bonnet bolts and nuts, open counter-clockwise (to the left), and have mechanical joint ends unless specified otherwise. Sufficient quantities of accessories shall be provided to install the valve in the pipeline.

C. All field installed bolts for direct bury shall be capped with 6 ounce Zinc Anode cap nuts as manufactured by Maple Agencies, “Protecto-Cap”; Trumbell Industries, Inc.; or equal.

D. Valves up to 12” diameter shall be designed to operate vertically in a horizontal pipeline.

E. Gate valves three inches (3”) to twelve inches (12”) shall be designed for a minimum design working pressure of 200 psig. Gate valves fourteen inches (14”) to forty-eight inches (48”) shall be designed for a minimum design working pressure of 150 psig.

F. All gate valves shall be designed for a minimum test pressure equal to the test pressure specified for the watermain.

2.8 GATE VALVE ACCESSORIES AND SPECIALTIES

A. Valve Boxes: Comply with AWWA M44 for cast-iron valve boxes. Include top section, adjustable extension of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over valve and with a barrel approximately 5 inches in diameter.

1. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.

2.9 CORPORATION VALVES AND CURB VALVES

A. Manufacturers:

B. Service-Saddle Assemblies: Comply with AWWA C800. Include saddle and valve compatible with tapping machine.

1. Service Saddle: Copper alloy with seal and AWWA C800, threaded outlet for corporation valve.
2. Corporation Valve: Bronze body and ground-key plug, with AWWA C800, threaded inlet and outlet matching service piping material.

C. Curb Valves: Comply with AWWA C800. Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.

2.10 FIRE HYDRANTS

A. Hydrants shall conform to the requirements of the AWWA Standard For Dry-Barrel Fire Hydrants, ANSI/AWWA C502-(latest revision) and as follows:

1. Type - "breakaway" with "0" ring seals
2. Valve opening – 5¼" diameter
3. Inlet - 6" mechanical joint
4. Nozzles: one 4½" pumper nozzle and two 2½" hose nozzles, all with National Standard Threads. Caps with chains will be required for all outlets.
5. Bury - designed to allow 4 feet of cover on the branch and allow 15 to 18 inches between the centerline of the lowest nozzle and the surface of the ground
6. Operating nut – 1 ½” pentagon
7. Direction of opening - left (counterclockwise)
8. Color – Yellow, (manufacturer applied)
9. Valve shall open against pressure and close with pressure
10. All working parts are to be in the bonnet of the hydrant above the nozzles, not in the waterway
11. Valve opening limit stops shall be in the shoe of the hydrant
12. All external hardware (bolts & nuts, etc.) - Stainless Steel required
13. Lower operating stem - Stainless Steel required
14. All hydrants to be furnished with no weeps
15. All hydrants shall be as manufactured by the Mueller Co. of the Centurian Pattern, including a bronze seat ring and weather shield/seal.

16. All new hydrants shall have touch-up paint applied in the field as necessary after installation with matching paint color by Rust-Oleum, Pennsbury “Hydrant-Hide”, or equal.

2.11 ANCHORAGES

A. General: Provide anchorages for tees, plugs, caps, bends, valves, couplings and pipe as shown on the plans and as follows:

1. Retainer glands shall be wedge action EBAA Iron Series 1100 for ductile iron pipe or EBAA Iron Series 2000 PV for PVC pipe or approved equal to fit mechanical joints.
2. Restraining harnesses shall be wedge action EBAA Iron Series 1700 Megalug for push joint ductile iron pipe or EBAA Iron Series 1600 for push joint PVC pipe or approved equal. Restraining harnesses for cast iron pipe joints shall be of the friction clamp type with threaded rods.
3. All anchorages shall have fusion bonded epoxy coating.
4. All bolts and nuts for buried joints shall be Fluorocarbon coated, high strength, corrosion resistant, low alloy steel, conforming to ANSI/AWWA C-111/A21.11- (latest revision).
5. All field installed bolts for direct bury shall be capped with 6 ounce Zinc Anode cap nuts as manufactured by Maple Agencies, “Protecto-Cap”; Trumbell Industries, Inc.; or equal.
6. All bolts and nuts for use inside chambers shall be Fluorocarbon coated, high strength, corrosion resistant, low alloy steel, conforming to ANSI/AWWA C-111/A21.11- (latest revision).
7. Thrust Blocks shall be 3000 psi concrete.

2.12 ANCHOR PIPE, COUPLINGS, TEES AND ELBOWS

A. All M.J. anchoring pipe, couplings, tees and elbows shall be as manufactured by Tyler Pipe Co. or equal. They shall be cement-lined in accordance with the requirements of the AWWA Standard for Cement - Mortar Lining for Ductile Iron Pipe and Fittings for Water, ANSI/AWWA C104/A21.4- (latest revision) and the thickness shall not be less than 1/8". All anchoring pipe, couplings, tees and elbows shall meet pressure requirements equivalent to that for pipe.

B. All nuts and bolts for joints shall be Fluorocarbon Coated, high strength, corrosion resistant, low alloy steel, and shall conform to AWWA C-111/A21.11 (latest revision).

C. All field installed bolts for direct bury shall be capped with 6 ounce Zinc Anode cap nuts as manufactured by Maple Agencies, “Protecto-Cap”; Trumbell Industries, Inc.; or equal.

2.13 COUPLINGS AND REPAIR CLAMPS

A. Couplings and clamps shall be as manufactured by Smith-Blair Inc., Ford Meter Box Co., Inc., Romac Industries, Inc., or approved equal.

B. Couplings and clamps shall be equipped with high strength, low alloy steel bolts and nuts having a fluorocarbon SC-1 coating.

C. All field installed bolts for direct bury shall be capped with 6 ounce Zinc Anode cap nuts as manufactured by Maple Agencies, “Protecto-Cap”; Trumbell Industries, Inc.; or equal.

D. Gaskets for couplings and joint clamps shall be molded rubber, Smith-Blair grade 30, Ford SBR compound, Romac SBR, or equal. Gaskets for repair clamps shall be molded rubber, grade 60, SBR compound, Nitrile (Buna N), or equal.

E. Sleeve type, Flexible Couplings shall be of the Smith-Blair type #411 (or #441 “Omni” where specified); Ford style FC1; Romac style 501; or equal. All couplings shall have fusion bonded epoxy coating finish.

F. Bell joint leak clamps shall be: Smith-Blair type #274; Ford style FBC; Romac style 516 or 416; or equal.

G. Transition couplings shall be: Smith-Blair type #413; Ford style FC2A; Romac style 501; or equal. All couplings shall have fusion bonded epoxy coating finish.

H. Repair clamps shall be full circle, 18-8 type 304 stainless steel, provided in minimum length of twelve inches (12"), unless otherwise noted.

1. Repair clamps for diameters up to twelve inches (12”) shall be single band as manufactured by: Smith-Blair type #261; Ford style FS1; Romac style SS1; or approved equal.
2. Repair clamps for sizes over twelve inches (12”) shall be with two or three sections as manufactured by: Smith-Blair type #263; Ford style FS2 or FS3; Romac style SS3; or approved equal.
3. All Repair Clamps shall be equipped with high strength, low alloy steel stud bolts and nuts having a fluorocarbon SC-1 coating.
4. Repair clamps with a separate keeper bar will not be accepted.
5. Cast iron or ductile iron fingers are not allowed except as noted or as approved by the Engineer.

2.14 HYMAX STYLE COUPLINGS

A. Hymax style couplings may be used only when approved by the Owner and/or Engineer.

B. Hymax style couplings for diameters up to twelve inches (12”) shall be as manufactured by: “Hymax Wide Range Coupling” or “Hymax Grip Wide Range Coupling”; Romac “Macro HP”; Smith-Blair #421, or approved equal. For diameters over twelve inches (12”): Krausz Industries, “Hymax Wide Range Coupling”; “Hymax Grip Wide Range Coupling”; or approved equal.

C. Center sleeve shall be fabricated of high strength carbon steel tubing with NFS-61 approved, fusion bonded epoxy coating on both interior and exterior.

D. Compression end rings to be either one bolt or two and fabricated of carbon steel.

E. Buried or submerged couplings shall be provided with Type 304 stainless steel bolts and nuts with anti-seize coating to prevent galling.

F. All field installed bolts for direct bury shall be capped with 6 ounce Zinc Anode cap nuts as manufactured by Maple Agencies, “Protecto-Cap”; Trumbell Industries, Inc.; or equal.

G. Gaskets shall be one piece, or two layered of which inner ring is removable to expand the range of the coupling. Gasket material shall be EPDM according to NSF61.

2.15 FLANGED COUPLING ADAPTERS

A. Flanged Coupling Adapters shall be as manufactured by: EBAA Iron, Series 2100 MegaFlange; Smith-Blair, Style 911 Flange-Lock; Ford style FFCA-XXX-K w/optional anchor studs; Krausz Industries, Hymax, Grip Flange Adapter; Romac, RFCA; or approved equal.

B. Coupling shall have ductile iron body and follower gland with bolt pattern conforming to AWWA C115 flanges.

C. Coupling body shall be painted with one coat of shop prime enamel and gasket ring shall have fusion bonded epoxy coating.

D. Gaskets and “O” rings shall be grade 30.

E. Bolts and nuts shall be either Type 304 stainless steel or high strength, low alloy steel having a fluorocarbon SC-1 coating.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Refer to Section 312000 "Earth Moving - Site" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.

B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.

C. Do not use flanges or unions for underground piping.

D. Flanges, unions, grooved-end-pipe couplings, and special fittings may be used, instead of joints indicated, on aboveground piping and piping in vaults.

3.3 VALVE APPLICATIONS

A. General Application: Use mechanical-joint-end valves for NPS 3 and larger underground installation. Use corporation valves and curb valves with ends compatible with piping, for NPS 2 and smaller installation.

B. Drawings indicate valve types to be used.

3.4 PIPING INSTALLATION

A. Make connections NPS 2 and smaller with drilling machine according to the following:

1. Install service-saddle assemblies and corporation valves in size, quantity, and arrangement required by utility company standards.
2. Install service-saddle assemblies on water-service pipe to be tapped. Position outlets for corporation valves.
3. Use drilling machine compatible with service-saddle assemblies and corporation valves. Drill hole in main. Remove drilling machine and connect water-service piping.
4. Install corporation valves into service-saddle assemblies.
5. Install curb valve in water-service piping with head pointing up and with service box.

B. Install ductile-iron, water-service piping according to AWWA C600 and AWWA M41.

C. Install PVC, AWWA pipe according to ASTM F645 and AWWA M23.

D. Bury piping with depth of cover over top at least 60 inches.

E. Extend water-service piping and connect to water-supply source and building-water-piping systems at outside face of building wall in locations and pipe sizes indicated.

1. Terminate water-service piping at building wall until building-water-piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building-water-piping systems when those systems are installed.

F. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.

3.5 ANCHORAGE INSTALLATION

A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:

1. Concrete thrust blocks.
2. Locking mechanical joints.
3. Set-screw mechanical retainer glands.
4. Bolted flanged joints.
5. Pipe clamps and tie rods.

B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:

1. Gasketed-Joint, Ductile-Iron, Water-Service Piping: According to AWWA C600.
2. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.

C. Apply full coat of asphalt or other acceptable corrosion-resistant material to surfaces of installed ferrous anchorage devices.

3.6 VALVE INSTALLATION

A. AWWA Gate Valves: Comply with AWWA C600 and AWWA M44. Install each underground valve with stem pointing up and with valve box.

B. Corporation Valves and Curb Valves: Install each underground curb valve with head pointed up and with service box.

3.7 FIRE HYDRANT INSTALLATION

A. General: Install each fire hydrant with separate gate valve in supply pipe, anchor with restrained joints or thrust blocks, and support in upright position.

B. AWWA Fire Hydrants: Comply with AWWA M17.

C. UL/FMG Fire Hydrants: Comply with NFPA 24.

3.8 CONNECTIONS

A. Connect water-distribution piping to existing water main.

B. Connect water-distribution piping to interior domestic water and fire-suppression piping.

3.9 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

PART 4 - TESTING (As per ANSI/AWWA C600 latest revision for DIP; ANSI/AWWA C605 for PVC;)

4.1 TESTING AND DISINFECTION PROCEDURE

A. Prior to performing any work as described in this part, the Contractor shall submit to the Engineer for approval a flushing, testing and/or disinfection procedure. The procedure shall include when the work will be performed, source points for water, flush points for water, length and location of waterline to be included, and de-chlorination procedures.

4.2 PRELIMINARY FLUSHING

A. Prior to the pressure and leakage tests, and line valve tests, each potable water system shall be flushed until three (3) pipe volumes have passed through the new waterline and the water runs visually clear. Each valved system of the newly installed piping system shall be flushed separately with potable water from the public supply.

B. Flushing must have sufficient flowrate to achieve a fluid velocity of 3.0 feet per second inside the waterline. A 2-inch minimum diameter tap is required for proper flushing of all watermains having a diameter of 8-inches or less. Multiple or larger taps/outlets may be required to achieve minimum 3.0 ft./sec. flushing velocities as referenced in AWWA C651 and as determined by the Engineer.

C. When filling of the new line for flushing is achieved by accepting water from an existing water line, the Contractor shall, as a minimum, maintain an open outlet on the new work at all times that the connection between the existing water line and the new work is open. After initial filling/flushing, the Contractor shall, as a minimum, furnish and install a reduced pressure zone (RPZ) backflow preventer at the source of the supply to protect against the backflow of water from the new line into the existing line. When water is obtained from existing Town waterlines for these purposes, the work shall be coordinated with and approved by the water department having jurisdiction, and the water shall be metered.

4.3 PERFORM HYDROSTATIC TESTING OF COMPLETED CONDUIT LINES IN ACCORDANCE WITH THE FOLLOWING:

A. Test No. 1 - Pressure Test:

1. Assumptions:

   a. AWWA requirement of hydrostatic test pressure to be based on the elevation of the lowest point in the line or section under test corrected to the elevation of the test gauge.
   b. Minimum test pressure required: All pipe shall be tested by pressure 50% in excess of the normal working pressures, but in no event at less than 170 psi.

2. The maximum length of pipeline to be tested at any one time shall not exceed 2,000 lineal feet or valve to valve, whichever is less.

B. Test No. 2 - Leakage Test:

1. The hydrostatic pressure shall be the same as determined for Test No. 1 Pressure Test.
2. The leakage test may be conducted concurrently with the pressure test.
3. The maximum length of pipeline to be tested at any one time shall not exceed 2,000 lineal feet or valve to valve, whichever is less.
4. The leakage for pressure pipelines shall not exceed 75% of the AWWA allowable rates in gallons per hour per 1,000 feet of pipe at the test pressure specified above per the following table:

Pipe Diameter	Pipe Material	AWWA Allowable Leakage (GPH)
4"	PVC, DI	0.35
6"	PVC, DI	0.53
8"	PVC, DI	0.70
10"	PVC, DI	0.88
12"	PVC, DI	1.06
16"	DI, PCCP	1.57

20"	DI, PCCP	1.96
24"	DI, PCCP	2.35

4.4 DURATION

A. The duration of the pressure test (Test No. 1) shall be a minimum of two (2) hours for all pipe.

B. The duration of the leakage test (Test No. 2) shall be a minimum of two (2) hours for all pipe.

C. Pressure should not fluctuate by more than 5 psi during testing.

4.5 PROCEDURE

A. The pipe shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe in a satisfactory manner. The pump, pipe connections, all necessary apparatus, taps into the pipe, gauges, and measuring devices, will be furnished by the Contractor. All work shall be accomplished by the Contractor.

B. When initial filling/flushing of the new line is achieved by accepting water from an existing water line, the Contractor shall, as a minimum, maintain an open outlet on the new work at all times that the connection between the existing water line and the new work is open. After initial filling/flushing, the Contractor shall, as a minimum, furnish and install a reduced pressure zone (RPZ) backflow preventer at the source of supply to protect against the backflow of water from the new line into the existing line. When water is obtained from existing Town waterlines for these purposes, the work shall be coordinated with and approved by the water department having jurisdiction, and the water shall be metered.

C. Testing shall be done as soon as the main line is installed and prior to disinfection.

4.6 EXPELLING AIR BEFORE TESTING

A. Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at various locations and elevations in the test section including the points of highest elevation in the test section. After satisfactory test results, these taps shall be tightly closed and copper tube removed.

4.7 EXAMINATION UNDER PRESSURE (TEST NO. 1)

A. All exposed pipes, joints and fittings which are exposed when the test is conducted, shall be carefully examined for visible leakage. Those portions of the pipeline covered by backfill shall be walked to observe leakage appearing on the ground surface. Any leaks discovered in the joints shall be corrected until tight. Any cracked or defective pipe, fittings, etc., discovered in consequence of this pressure test shall be removed and replaced by the Contractor with new material as previously specified and the test repeated until satisfactory to the Engineer.

B. If the pressure drop is greater than 5 psi in 2 hours, or if the Engineer believes the line is suspect, the Contractor shall explore for the cause of the excessive leakage and after repairs have been made, the line shall be retested. This procedure shall be repeated until the pressure loss is less than the maximum allowable and the Engineer is satisfied.

4.8 PERMISSIBLE LEAKAGE (TEST NO. 2)

A. Suitable means (acceptable to the Engineer) shall be provided by the Contractor for determining the quantity of water loss by leakage under the specified test pressure. No pipe installation will be acceptable until, or unless, this leakage is less than that specified in this Section, at the test pressure specified.

B. Should any test of pipe laid disclose leakage greater than that specified in this section, the Contractor shall, at his own expense, locate and repair the defective joints or pipe until the leakage is within the specified allowable.

4.9 LEAKAGE DEFINED

A. Leakage is defined as the quantity of water to be supplied into the newly laid pipe necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.

B. At the end of each test, the pressure shall be increased to the starting pressure so leakage test data may be acquired.

4.10 WATER FOR TESTING

A. Water for performing all tests shall be furnished and disposed of by the Contractor, at his expense. If the water for filling and testing is obtained from an existing Town waterline a meter shall be installed to measure the quantity of water used for these purposes. , The cost of water used shall be borne by the Contractor. No water shall be obtained from an existing water line unless the Contractor first obtains the consent of the Owner or agency having jurisdiction over the existing main. Existing conditions may restrict the amount and rate of water that can be obtained from the existing line and the Contractor shall comply with the directions of the Owner or agency of jurisdiction.

B. When filling of the new line for testing is achieved by accepting water from an existing water line, the Contractor shall, as a minimum, furnish and install a reduced pressure zone (RPZ) backflow preventer at the source of the supply to protect against the backflow of water from the new line into the existing line. When water is obtained from existing Town waterlines for these purposes, the work shall be coordinated with and approved by the water department having jurisdiction, and the water shall be metered.

PART 5 - DISINFECTION (AS PER ANSI/AWWA C651-(LATEST REVISION))

5.1 ADJUST AND CLEAN

A. Disinfection of Potable Water Systems: All piping connecting to, and forming a part of, a potable water system shall be disinfected in a manner acceptable to the New York State Department of Health. The method described as follows, or other method acceptable to the Health Department having jurisdiction, shall be used. Water for disinfection and flushing shall be furnished and disposed of by the Contractor.

5.2 CHLORINATION

A. Disinfect the piping system with chlorine applied by introduction of a hypochlorite solution derived from Sodium Hypochlorite (NaOCl) solution, conforming to ANSI/AWWA B300. The use of Liquefied Elemental Chlorine Gas (Cl_2) and/or Calcium Hypochlorite in any form shall not be allowed.
   1. Sodium Hypochlorite shall be provided in liquid form containing approximately 5% to 15% available (free) chlorine.

B. Solutions shall be prepared in a plastic or rust-free steel barrel.

C. The clear supernatant shall be applied to the main through a rubber hose by a suitable pump feeder. The point of application of the chlorinating agent shall be at the beginning of the piping system or any valved sections thereof, through a corporation inserted in the top of the newly installed pipe. Water from the existing distribution system shall be controlled so as to flow slowly into the newly installed piping system during the application of the chlorine. The rate of chlorine mixture flow shall be in such proportion to the water entering the newly installed pipe that the resulting free chlorine residual shall be between 50 and 100 ppm (*mg/l*). Concentrations over 100 ppm (*mg/l*) shall not be allowed to enter the piping system. Valves shall be manipulated so that the strong chlorine solution in the pipe being treated will not flow back into the line supplying the water.

D. The chlorinated water shall be retained in the main for at least 24 hours, during which time all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. At the end of this 24-hour period, the treated water shall contain no less than 25-ppm chlorine throughout the length of the main.

E. When making repairs, connections of the approved water main to the existing system, or when specified, the structures and portions of pipe lines not able to be disinfected by conventional methods, shall be chlorinated by a concentrated chlorine solution containing between 200 ppm (*mg/l*) and 300 ppm (*mg/l*) of free chlorine. The solution shall be applied with a brush or sprayed on the entire inner surface of the empty pipes and structures. The surfaces disinfected shall remain in contact with the strong chlorine solution for at least 30 minutes.

F. The Contractor must use an approved test method to determine chlorine levels. Test strips will be allowed for testing chlorine levels if the kit is new, in the original bottle, and has a color coded scale on the side with legible concentrations defined. Sending samples to an approved laboratory is also acceptable.

5.3 FINAL FLUSHING (As per ANSI/AWWA C655-(latest revision)

A. After the applicable retention period, the heavily chlorinated water shall be flushed from the main until the chlorine concentrated in the water leaving the main is no higher than that generally prevailing in the system, or less than 1 ppm. Chlorine residual determination shall be made at

each bacteriological water sampling location to ascertain that the heavily chlorinated water has been removed from the pipeline.

B. Superchlorinated water shall be emptied into a tank truck, or similar containment device, and neutralized using a reducing agent (such as Sodium Thiosulfate) prior to being discharged in a manner that will not adversely affect flora and fauna, and shall conform to applicable state regulations for waste discharge as found in ANSI/AWWA C655-(latest revision) and NYSCRR Title 6, Chapter X, parts 700 - 705 (Water Quality Regulations).

C. Discharge of water into a storm or sanitary sewer system will require prior written approval from the municipality or owner/operator of the utility.

D. Water from flushing procedures shall not be discharged into a public roadway and shall not cause damage to any public or private property.

PART 6 - BACTERIOLOGICAL TEST (AS PER ANSI/AWWA C651-(LATEST REVISION), SECTION 5)

6.1 PROCEDURE

A. Sampling:

1. After completion of final flushing, before the new water main is connected to the distribution system, and in the presence of the Engineer, two (2) sets of bacteriological water samples shall be collected from an acceptable outlet(s) of the treated piping system (one immediately after final flushing and a second one after a minimum of 16 hours).
2. Other than the amount of water required to collect samples at each location, all water must be retained in the new main after final flushing until after the final set of bacteriological samples is collected. No additional flushing will be allowed during the sampling procedure.
3. If additional flushing is required to reduce chlorine residual, bacteriological sampling must cease and not resume until flushing operations have stopped and chlorine residual has reached acceptable levels.

B. Testing and Analysis:

1. All water samples shall be tested to show the presence of a free chlorine residual and the absence of coliform organisms in accordance with the latest Health Department requirements. If, at this time, the samples show unsatisfactory results, the chlorine treatment shall be repeated until all samples show safe results.
2. Bacteriological testing and analysis must be performed at a laboratory approved by the Health Department and the Owner and shall be paid for by the Contractor. Samples must be picked up by laboratory personnel and delivered to the laboratory. The certified bacteriological test results must be delivered to the Owner and/or Engineer immediately upon completion.
3. Bacteriological test results shall expire 30 calendar days after the samples are taken. After 30 calendar days, if the new main has not been placed into service, the Contractor will be required to repeat the process, taking two sets of samples and submitting the results to the Engineer for review.
4. Per AWWA C651 standards, the maximum length of new pipe that can be installed without bacteriological sampling is 20 lineal feet unless otherwise approved by the Owner, Engineer, and the Health Department having jurisdiction.

C. Sampling Locations:

1. The number of bacteriological water samples taken along the full length of pipeline shall be as determined by the Engineer and shall be acceptable to the Health Department having jurisdiction.
2. As a minimum, bacteriological water samples shall be taken as follows:
   a. At a maximum of every 1,000 feet along the new water main.
   b. Within 10 feet of each end of each section of water main
   c. Fire hydrants and hoses are not considered acceptable sampling ports.
3. The Contractor shall, at his expense, provide all necessary taps (wet or dry), outlets, fittings, piping, apparatus, labor, materials, equipment, water, etc. required.

END OF SECTION 331000

SECTION 33 30 00- SANITARY SEWER SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. PVC pipe and fittings.
2. Non pressure-type transition couplings.
3. Cleanouts.
4. Manholes.
5. Concrete.

B. Related Requirements:

1. City of Buffalo Department of Public Works Division of Engineering: Standards and Specifications for Construction and Materials, dated January 1, 1988 and all sections and articles reference thereto and as amended.
2. Buffalo Sewer Authority standards and inspection requirements.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:

1. Pipe and fittings.
2. Non-pressure and pressure couplings
3. Expansion joints and deflection fittings.
4. Cleanouts.

B. Shop Drawings: For manholes. Include plans, elevations, sections, details, and frames and covers.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of pipe and fitting.

B. Field quality-control reports.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle manholes according to manufacturer's written rigging instructions.

1.6 FIELD CONDITIONS

A. Interruption of Existing Sanitary Sewerage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Architect no fewer than five days in advance of proposed interruption of service.
2. Do not proceed with interruption of service without Architect's written permission.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS

A. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D3034, PVC with bell ends.
3. Gaskets: ASTM F477, elastomeric seals.

2.2 NONPRESSURE-TYPE TRANSITION COUPLINGS

A. Comply with ASTM C1173, elastomeric, sleeve-type, reducing or transition coupling; for joining underground non pressure piping. Include ends of same sizes as piping to be joined and include corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Plastic Pipes: ASTM F477, elastomeric seal or ASTM D5926, PVC.
2. For Dissimilar Pipes: ASTM D5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Description: Elastomeric sleeve with corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Shielded, Flexible Couplings:

1. Description: ASTM C1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

2.3 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
2. Top-Loading Classification(s): Heavy Duty.
3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A74, Service class, cast-iron soil pipe and fittings.

B. PVC Cleanouts:

1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.4 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
4. Base Section: 6-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section; with separate base slab or base section with integral floor.
5. Riser Sections: 6-inch minimum thickness, of length to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated; with top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C990, bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C923, cast or fitted into manhole walls, for each pipe connection.
9. Steps: Individual FRP steps or FRP ladder; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
10. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Designed Precast Concrete Manholes:

1. Description: ASTM C913; designed according to ASTM C890 for A-16 (ASSHTO HS20-44 in AASHTO HL), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for sealant joints.
2. Ballast: Increase thickness of one or more precast concrete sections or add concrete to manhole as required to prevent flotation.
3. Joint Sealant: ASTM C990, bitumen or butyl rubber.
4. Resilient Pipe Connectors: ASTM C923, cast or fitted into manhole walls, for each pipe connection.
5. Steps: Individual FRP steps or FRP ladder; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
6. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
7. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

C. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch ID by 7- to 9-inch riser, with 4-inch-minimum-width flange and 26-inch-diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "SANITARY SEWER."
2. Material: ASTM A536, Grade 60-40-18 ductile iron unless otherwise indicated.

2.5 CONCRETE

A. General: Cast-in-place concrete complying with ACI 318, ACI 350, and the following:

1. Cement: ASTM C150, Type II.
2. Fine Aggregate: ASTM C33, sand.
3. Coarse Aggregate: ASTM C33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615, Grade 60 deformed steel.

C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.

    a. Invert Slope: 2 percent through manhole.

2. Benches: Concrete, sloped to drain into channel.

    a. Slope: 4 percent.

D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615, Grade 60 deformed steel.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving - Site."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details to indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. Install gravity-flow, non pressure, drainage piping according to the following:

1. Install piping pitched down in direction of flow, at minimum slope of **1** percent unless otherwise indicated.
2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
3. Install piping with 36-inch minimum cover.

4. Install PVC Type PSM sewer piping according to ASTM D2321 and ASTM F1668.

F. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, non pressure, drainage piping according to the following:

1. Join PVC Type PSM sewer piping according to ASTM D2321 and ASTM D3034 for elastomeric-seal joints or ASTM D3034 for elastomeric-gasket joints.
2. Join dissimilar pipe materials with non pressure-type, flexible or rigid couplings.

B. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use non pressure flexible couplings where required to join gravity-flow, non pressure sewer piping unless otherwise indicated.

a. Unshielded flexible or rigid couplings for pipes of same or slightly different OD.
b. Unshielded, increaser/reducer-pattern, flexible or rigid couplings for pipes with different OD.

3.4 MANHOLE INSTALLATION

A. General: Install manholes complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C891.

C. Form continuous concrete channels and benches between inlets and outlet.

D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere unless otherwise indicated.

3.5 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.6 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Install piping so cleanouts open in direction of flow in sewer pipe.

3.7 CONNECTIONS

A. Connect non pressure, gravity-flow drainage piping to building's sanitary building drains specified in Section 221316 "Sanitary Waste and Vent Piping."

B. Make connections to existing piping and underground manholes.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye fitting plus 6-inch overlap with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
3. Protect existing piping and manholes to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.8 IDENTIFICATION

A. Comply with requirements in Section 312000 "Earth Moving - Site" for underground utility identification devices. Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.

1. Use warning tape or detectable warning tape over ferrous piping.
2. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.9 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate report for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Hydrostatic Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction and the following:

    a. Fill sewer piping with water. Test with pressure of at least 10-foot head of water, and maintain such pressure without leakage for at least 15 minutes.
    b. Close openings in system and fill with water.
    c. Purge air and refill with water.
    d. Disconnect water supply.
    e. Test and inspect joints for leaks.

6. Air Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Test plastic gravity sewer piping according to ASTM F1417.

7. Manholes: Perform hydraulic test according to ASTM C969.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.10 CLEANING

A. Clean dirt and superfluous material from interior of piping. Flush with water.

3.11 WASTE MANAGEMENT

A. Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

END OF SECTION 333000

SECTION 33 42 00 - STORMWATER CONVEYANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. PE pipe and fittings.
2. Non-pressure transition couplings.
3. Manholes.
4. Catch basins.
5. Pipe outlets.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Manholes: Include plans, elevations, sections, details, frames, and covers.
2. Catch basins. Include plans, elevations, sections, details, frames, covers, and grates.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle manholes in accordance with manufacturer's written rigging instructions.

D. Handle catch basins in accordance with manufacturer's written rigging instructions.

PART 2 - PRODUCTS

2.1 CORRUGATED-PE PIPE AND FITTINGS

A. Source Limitations: Obtain corrugated-PE pipe and fittings from single manufacturer.

B. Corrugated-PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252 or ASTM F2648, Type S, with smooth waterway for coupling joints.

C. Corrugated-PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294 or ASTM F2648, Type S, with smooth waterway for coupling joints.

D. Corrugated-PE Silttight Couplings: PE sleeve with ASTM D1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.

E. Corrugated-PE Soiltight Couplings: AASHTO M 294, corrugated, matching pipe and fittings.

2.2 PVC PIPE AND FITTINGS (within City of Buffalo Right of Way)

A. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D3034, PVC with bell ends.
3. Gaskets: ASTM F477, elastomeric seals.

2.3 NONPRESSURE TRANSITION COUPLINGS

A. Comply with ASTM C1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non pressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Plastic Pipes: ASTM F477, elastomeric seal or ASTM D5926, PVC.
2. For Dissimilar Pipes: ASTM D5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Source Limitations: Obtain unshielded, flexible couplings from single manufacturer.
2. Description: Elastomeric sleeve with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.4 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section as required to prevent flotation.
4. Base Section: 8-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
5. Riser Sections: 6-inch minimum thickness, and lengths to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated, and top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C990, bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C923, cast or fitted into manhole walls, for each pipe connection.
9. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
10. Adjusting Rings: Interlocking HDPE rings with level or sloped edge in thickness and diameter matching manhole frame and cover, and of height required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover, and height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Designed Precast Concrete Manholes:

1. Description: ASTM C913; designed in accordance with ASTM C890 for A-16 (AASHTO HS20-44), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for sealant joints.
2. Ballast: Increase thickness of one or more precast concrete sections or add concrete to manhole as required to prevent flotation.
3. Joint Sealant: ASTM C990, bitumen or butyl rubber.
4. Resilient Pipe Connectors: ASTM C923, cast or fitted into manhole walls, for each pipe connection.
5. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
6. Adjusting Rings: Interlocking HDPE rings with level or sloped edge in thickness and diameter matching manhole frame and cover, and of height required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
7. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover, and of height required to adjust manhole frame and cover to indicated elevation and slope.

C. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch ID by 7- to 9-inch riser with 4-inch-minimum width flange and 26-inch-diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "STORM SEWER."
2. Material: ASTM A536, Grade 60-40-18 ductile iron unless otherwise indicated.

2.5 CONCRETE

A. General: Cast-in-place concrete in accordance with ACI 318, ACI 350, and the following:

1. Cement: ASTM C150, Type II.
2. Fine Aggregate: ASTM C33, sand.
3. Coarse Aggregate: ASTM C33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615, Grade 60 deformed steel.

C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.

    a. Invert Slope: 1 percent through manhole.

2. Benches: Concrete, sloped to drain into channel.

    a. Slope: 4 percent.

D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615, Grade 60 deformed steel.

2.6 CATCH BASINS

A. Standard Precast Concrete Catch Basins:

1. Description: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.

2. Base Section: 6-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
3. Riser Sections: 6-inch minimum thickness, and lengths to provide depth indicated.
4. Joint Sealant: ASTM C990, bitumen or butyl rubber.
5. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.
6. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch-square frame and grate.
7. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of catch basin to finished grade is less than 60 inches.
8. Pipe Connectors: ASTM C923, resilient, of size required, for each pipe connecting to base section.

B. Designed Precast Concrete Catch Basins: ASTM C913, precast, reinforced concrete; designed in accordance with ASTM C890 for A-16 (ASSHTO HS20-44), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for joint sealants.

1. Joint Sealants: ASTM C990, bitumen or butyl rubber.
2. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.
3. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch-square frame and grate.
4. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of catch basin to finished grade is less than 60 inches.
5. Pipe Connectors: ASTM C923, resilient, of size required, for each pipe connecting to base section.

C. Frames and Grates: ASTM A536, Grade 60-40-18, ductile iron designed for A-16 (AASHTO HS20-44), structural loading. Include flat grate with small square or short-slotted drainage openings.

1. Size: 24 by 24 inches minimum unless otherwise indicated.
2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

2.7 PIPE OUTLETS

A. Riprap Basins: Broken, irregularly sized and shaped, graded stone in accordance with NSSGA's "Quarried Stone for Erosion and Sediment Control."

1. Average Size: NSSGA No. R-5, screen opening 5 inches (127 mm).

B. Filter Stone: In accordance with NSSGA's "Quarried Stone for Erosion and Sediment Control," No. FS-2, No. 4 screen opening, average-size graded stone.

2.8 UNDERDRAINS

A. Rigid Polyethylene (PE) Pipe:
   a. 6" diameter, dual wall, soil tight, integral bell, perforated, rigid, corrugated polyethylene (PE) pipe with necessary fittings as manufactured by Hancor, Inc., ADS, or equal. Pipe to conform to AASHTO M252 or ASTM F2648.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavation, trenching, and backfilling are specified in Section 312000 "Earth Moving - Site."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. Install gravity-flow, non pressure drainage piping in accordance with the following:

   1. Install piping pitched down in direction of flow.
   2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place concrete supports or anchors.
   3. Install piping with 36-inch-minimum cover.
   4. Install PE corrugated sewer piping in accordance with ASTM D2321.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, non pressure drainage piping in accordance with the following:

   1. Join corrugated-PE piping in accordance with ASTM D3212 for push-on joints.
   2. Join dissimilar pipe materials with non pressure-type flexible couplings.

3.4 MANHOLE INSTALLATION

A. General: Install manholes, complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants in accordance with ASTM C891.

C. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.

D. Set frames and covers to elevations indicated.

3.5 CATCH BASIN INSTALLATION

A. Construct catch basins to sizes and shapes indicated.

B. Set frames and grates to elevations indicated.

3.6 STORMWATER OUTLET INSTALLATION

A. Construct riprap of broken stone, as indicated.

B. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.

3.7 CONCRETE PLACEMENT

A. Place cast-in-place concrete in accordance with ACI 318.

3.8 CONNECTIONS

A. Connect non pressure, gravity-flow drainage piping in building's storm building drains specified in Section 221413 "Facility Storm Drainage Piping."

B. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

    a. Unshielded flexible couplings for same or minor difference OD pipes.
    b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.
    c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.9 CLOSING ABANDONED STORM DRAINAGE SYSTEMS

A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:

1. Close open ends of piping with at least 8-inch-thick, brick masonry bulkheads.

B. Abandoned Manholes and Structures: Excavate around manholes and structures as required and use one procedure below:

1. Remove top of manhole or structure down to at least 36 inches below final grade. Fill to within 12 inches of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.

C. Backfill to grade in accordance with Section 312000 "Earth Moving - Site."

3.10 IDENTIFICATION

A. Materials and their installation are specified in Section 312000 "Earth Moving - Site." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

1. Use warning tape or detectable warning tape over ferrous piping.
2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.11 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems in accordance with requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test in accordance with requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Exception: Piping with soil tight joints unless required by authorities having jurisdiction.
    b. Option: Test plastic piping in accordance with ASTM F1417.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.12 CLEANING

A. Clean interior of piping of dirt and superfluous materials. Flush with water.

3.13 WASTE MANAGEMENT

A. A.Separate and dispose of waste in accordance with the Project’s Waste Management Plan.

END OF SECTION 334200

RAVI ENGINEERING & LAND SURVEYING, P.C.

June 14, 2024

Wendel
375 Essjay Road
Suite 200
Williamsville, New York 14221

Attention: Amber Holycross

Subject: Geotechnical Engineering Investigation
Proposed 631 Northland Redevelopment
631 Northland Avenue
Buffalo, New York

Dear Ms. Holycross:

Ravi Engineering & Land Surveying, P.C. is pleased to submit the Geotechnical Engineering Investigation for the above referenced project. If you require additional information, please contact the undersigned at (585) 697-2821. Thank you.

Respectfully submitted,

RAVI ENGINEERING & LAND SURVEYING, P.C.

James D. MacKecknie
Project Manager

Attachment: Geotechnical Engineering Investigation – June 2024

REPORT

GEOTECHNICAL ENGINEERING INVESTIGATION

PROPOSED 631 NORTHLAND REDEVELOPMENT

631 NORTHLAND AVENUE

BUFFALO, NEW YORK

For

Wendel

June 2024

June 14, 2024

Wendel
375 Essjay Road
Suite 200
Williamsville, New York 14221

Attention: Amber Holycross

Subject: Geotechnical Engineering Investigation
Proposed 631 Northland Redevelopment
631 Northland Avenue
Buffalo, New York

Readers:

This report presents the results of a geotechnical engineering investigation for the project identified above.

SUBSURFACE EXPLORATIONS

Twelve test borings were performed at the site. Eight of the borings (identified as SB-1-24 through SB-8-24) were performed for geotechnical purposes. Four of the borings (identified as BH1/MW1, BH2/MW2, BH3/MW3, and BH5) were performed primarily for environmental purposes.

The approximate locations of the 12 borings are shown on the plans in attached Appendix A.

All 12 borings were performed using rotary drilling equipment.

The eight geotechnical borings were performed by Earth Dimensions, between 4/24/24 and 4/26/24. The logs of the borings were prepared by Earth Dimensions, and are presented in attached Appendix B.

The four environmental borings were performed by NW Contracting, between 4/9/24 and 4/11/24. The logs of the borings were prepared by Ravi Engineering & Land Surveying, and are presented in attached Appendix C.

It should be noted that short-term observations may not be representative of actual groundwater levels, and that groundwater levels will vary with factors including location, time, precipitation, season, and site activities.

DESIGN AND CONSTRUCTION

General

All design and construction should meet or exceed the requirements of all applicable codes.

With regard to the Building Code of New York State, a seismic Site Class of "C" should be applied to this project. This corresponds to a "Very dense soil and soft rock" profile.

New Foundations on Rock

All of the following requirements should be satisfied:

- A foundation on rock should bear directly on sound limestone bedrock, below any severely weathered or fractured zones.
- The bearing surface should be relatively level, with a slope no steeper than 1 vertical on 10 horizontal.
- Individual column foundations should be designed for a bearing pressure of 50,000 pounds per square foot or less, and should in no case be less than 30 inches in width or diameter.
- Continuous wall foundations should be designed for a bearing pressure of 50,000 pounds per square foot or less, and should in no case be less than 24 inches in width.
- At any location where a new foundation will meet an existing foundation, the foundations should bear at the same elevation.
- The imaginary slope between the bottom edges of any two foundations should be no steeper than 1 vertical on 2 horizontal.
- Any stepped wall foundations should be stepped in vertical increments of 12 inches or less, and horizontal increments of 24 inches or more.

The approximate depths and elevations of the top of limestone bedrock, at the boring locations, are presented in the attached table.

New Foundations on Soil or Compacted Fill

All of the following requirements should be satisfied:

- No existing fill, organic matter, loose or soft natural soil, pavement, concrete, existing utilities, or other unsuitable materials should be left in place below a foundation.

- Foundations should bear on suitable natural soil, or on compacted granular fill.

- Any granular fill below a foundation should be placed directly on suitable natural soil or bedrock. The granular fill should extend laterally beyond each edge of the foundation, a distance at least as great as the vertical thickness of granular fill below the foundation.

- Subgrades should be prepared, and granular fill should be placed and compacted, as described elsewhere in this report.

- Individual column foundations should be designed for a bearing pressure of 3,000 pounds per square foot or less, and should in no case be less than 36 inches wide.

- Continuous wall foundations should be designed for a bearing pressure of 3,000 pounds per square foot or less, and should in no case be less than 24 inches wide.

- Foundations should be seated at least 4 feet below the lowest adjacent final surface exposed to freezing temperatures.

- At any location where a new foundation will meet an existing foundation, the foundations should bear at the same elevation.

- The imaginary slope between the bottom edges of any two foundations should be no steeper than 1 vertical on 2 horizontal.

- Any stepped wall foundations should be stepped in vertical increments of 12 inches or less, and horizontal increments of 24 inches or more.

The approximate depths and elevations of the top of suitable natural bearing soil, at the boring locations, are presented in the attached table.

Settlement of New Foundations

The total settlement of any new foundation, if properly designed and constructed in accordance with this report, is not expected to exceed 1 inch.

The settlements of foundations on soil or compacted fill are likely to be greater than the settlements of foundations on rock. Differential settlements may approach 1 inch, particularly if both foundation types are used.

Load Increases on Existing Foundations

If the loads on any existing foundations are to be increased, the existing foundations should satisfy the requirements for new foundations, as described elsewhere in this report. Geotechnical and structural evaluations may be necessary, and could include some or all of the following:

- An assessment of the previous performance of the existing foundations
- A review of drawings for the existing structure
- A comparison of previous and proposed dead and live loads
- Visual inspections and measurements
- Coring and testing of existing concrete
- Probing and sampling, through and/or beside existing foundations, to check the suitability of the underlying material

New Floor Slabs on Grade

Based on the borings, it appears that the subgrades below any new floor slabs on grade will consist of random fill materials.

At least 12 inches of compacted granular fill should be placed beneath all floor slabs. Drained, unsaturated conditions should be maintained within the granular fill. Subgrades should be prepared, and granular fill should be placed and compacted, as described elsewhere in this report.

For a well-prepared subgrade, an appropriate subgrade modulus (K) would be 75 pounds per cubic inch. The effective modulus, at the top of at least 12 inches of compacted granular fill, could be taken as 150 pounds per cubic inch.

Floor slabs should be designed and constructed in accordance with ACI recommendations.

Lateral Earth Pressures and Sliding Resistance

Backfill should consist of compacted granular fill, as described elsewhere in this report. For purposes of analysis and design, the following are recommended:

- Total soil unit weight: 125 pounds per cubic foot
- Buoyant or submerged soil unit weight: 65 pounds per cubic foot
- Soil internal friction angle: 30 degrees

- Active lateral earth pressure coefficient: 0.33
- At-rest lateral earth pressure coefficient: 0.50
- Passive lateral earth pressure coefficient: 3.00
- Ultimate coefficient of sliding friction, un-formed concrete on soil or rock: 0.50

Excavation

Excavation should be performed in accordance with all applicable local, state, and federal requirements. The sides of all excavations should be sloped or supported as required by safety regulations. Existing structures, utilities, and other property should be protected.

With regard to the current OSHA regulations, Type C soil should be assumed. This would apply to adequately dewatered soil.

To minimize subgrade disturbance, excavation should be performed with increasing care as subgrade levels are approached.

Rock excavation will generally require that the rock be broken and loosened before it is removed. Special methods (such as hoe-ramming and/or drilling) are likely to be necessary. Blasting is not recommended.

Construction Dewatering

All work should be performed in the dry. In addition, the dewatering should be sufficient to permit suitable preparation of the subgrade and compaction of any subsequent fill materials.

The contractor should be prepared to dewater as necessary, and should choose and employ an appropriate type of dewatering system. Any dewatering system should be operated in such a way that disturbance or removal of the subgrade soil does not occur.

Preparation of Soil Subgrades

It is cautioned that the soils at this site contain fine-grained material, and that they will be sensitive to disturbance. Subgrades should be kept free of water, subjected to a minimum amount of construction traffic, exposed no longer than necessary, and not permitted to freeze.

Subgrades should be carefully prepared and thoroughly examined by qualified personnel, tamped using vibratory equipment (to the greatest extent practical without loosening or softening the subgrade soils), and proof rolled (where space permits) using a fully loaded ten-wheel dump truck or full-size roller.

No new fill or foundation concrete should be placed over material that is loose, soft, wet, frozen, or otherwise unsuitable with respect to the design recommendations.

A soil subgrade below a foundation should consist of inorganic natural soil.

The subgrade below a floor slab is likely to consist of existing fill. It should contain no more than trace amounts of organic matter.

Granular Fill and Backfill

Granular fill should consist of a durable sand and gravel or crusher-run stone, free of any organic matter. The plasticity index should be less than 5. Granular fill should have 100 percent finer than 3 inches, 20 to 60 percent finer than the Number 4 sieve, and no more than 10 percent finer than the Number 200 sieve.

Granular fill could also be specified as meeting the NYSDOT requirements for Subbase Course Type 1, 2, or 4.

Granular fill should be compacted, in lifts of 9 inches or less, to at least 95 percent of the maximum dry density determined by ASTM D 1557.

The in-place density and water content of compacted fill should be determined by ASTM D 6938. For any compacted fill below wall footings, at least one test should be performed per 50 lineal feet of wall, per lift. For any compacted fill below column footings, at least one test should be performed per footing, per lift. For other areas such as floor slabs, at least one test should be performed per 2,500 square feet, per lift.

CLOSING COMMENTS AND RECOMMENDATIONS

Professional services for this investigation were performed in accordance with generally accepted geotechnical engineering practices, exclusively for the subject project. No warranty, expressed or implied, is made.

It should be noted that subsurface conditions are inferred from the logs of subsurface explorations; that each subsurface exploration is performed at a specific location and time; that conditions between, beyond, and below explorations are likely to vary; that conditions are often described on the basis of visual examinations of recovered samples; that visual descriptions may not always agree well with descriptions made on the basis of laboratory tests; that the distinction between fill and naturally-deposited soil can not always be readily determined on the basis of recovered samples; and that conditions can be changed by excavation and/or filling, performed after the exploration. If subsurface conditions are subsequently revealed that appear to be significantly different or less favorable than those described, we should be given the opportunity to revise the statements in this report.

Designers and contractors are advised that this report was prepared primarily for design purposes, and that it may not contain sufficient information for bidding. Contractors should visit the site, review this report and the related exploration logs, and evaluate potential construction difficulties on the basis of their own knowledge and experience.

It is recommended that qualified personnel be retained to review the geotechnical portions of the contract drawings and specifications, and to provide monitoring services during construction.

If you have questions or comments regarding this report, please contact the undersigned.

Yours truly,

RAVI ENGINEERING & LAND SURVEYING, P.C.

Nagappa Ravindra, P.E.
President

Ray M. Teeter, P.E.
Geotechnical Engineer

Attachments:

Table – Approximate Elevations and Depths, Tops of Suitable Natural Bearing Soil and Limestone

Appendix A – Plans Showing Approximate Locations of Test Borings

Appendix B – Logs of Eight Geotechnical Borings, Prepared by Earth Dimensions

Appendix C – Logs of Four Environmental Borings, Prepared by Ravi Engineering & Land Surveying

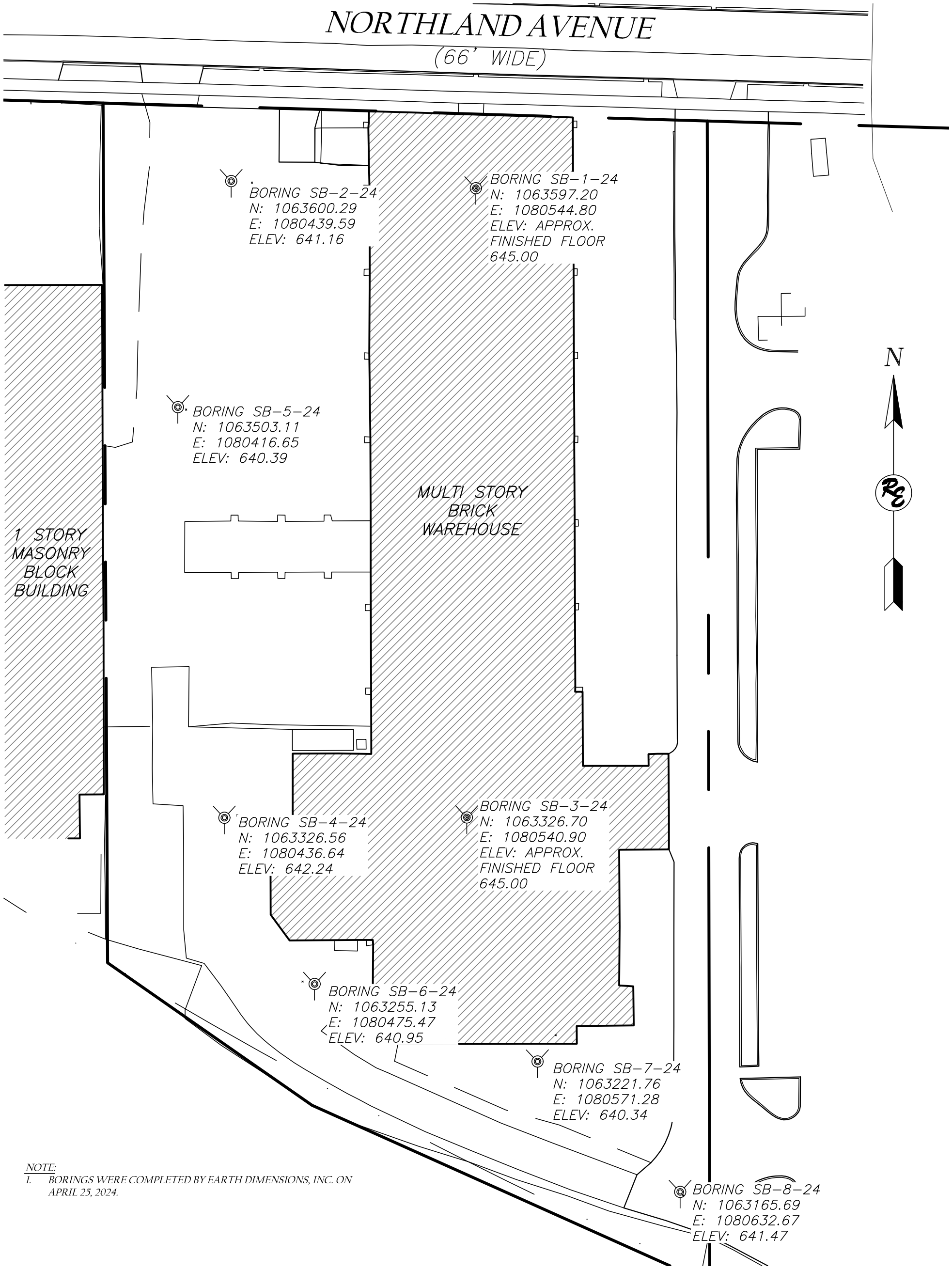
Approximate Elevations and Depths
Tops of Suitable Natural Bearing Soil and Limestone
Proposed 631 Northland Redevelopment
631 Northland Avenue
Buffalo, New York

Test Boring Number	Approx Surface Elevation	Top of Suitable Natural Bearing Soil		Top of Limestone	
		Approx Depth	Approx Elevation	Approx Depth	Approx Elevation
SB-1-24	645	8	637	12	633
SB-2-24	641	1	640	10	631
SB-3-24	645	10	635	16	629
SB-4-24	642	7	635	16	626
SB-5-24	640	5	635	12	628
SB-6-24	641	8	633	14	627
SB-7-24	640	7	633	10	630
SB-8-24	641	6	635	10	631
BH1/MW1	642	no suitable natural soil		10	632
BH2/MW2	641	7	634	12	629
BH3/MW3	641	no suitable natural soil		9	632
BH5	643	no suitable natural soil		9	634

Note: All elevations and depths are in feet, and are approximate. Elevations and depths at other locations will vary. See accompanying report and boring logs for additional information.

Appendix A

Plans Showing Approximate Locations of Test Borings



NOTE:

1. BORINGS WERE COMPLETED BY EARTH DIMENSIONS, INC. ON APRIL 25, 2024.

GEOTECHNICAL INVESTIGATION BORING LOCATIONS

INDUSTRIAL MANUFACTURING BUILDING - 631 NORTHLAND AVENUE

LOCATED IN

CITY OF BUFFALO, ERIE COUNTY, NEW YORK

Date : 5/22/2024 | Drawn By: JFF | Scale : N.T.S. | Project # 43-24-029

RAVI ENGINEERING & LAND SURVEYING, P.C.
2110 South Clinton Avenue, Suite 1
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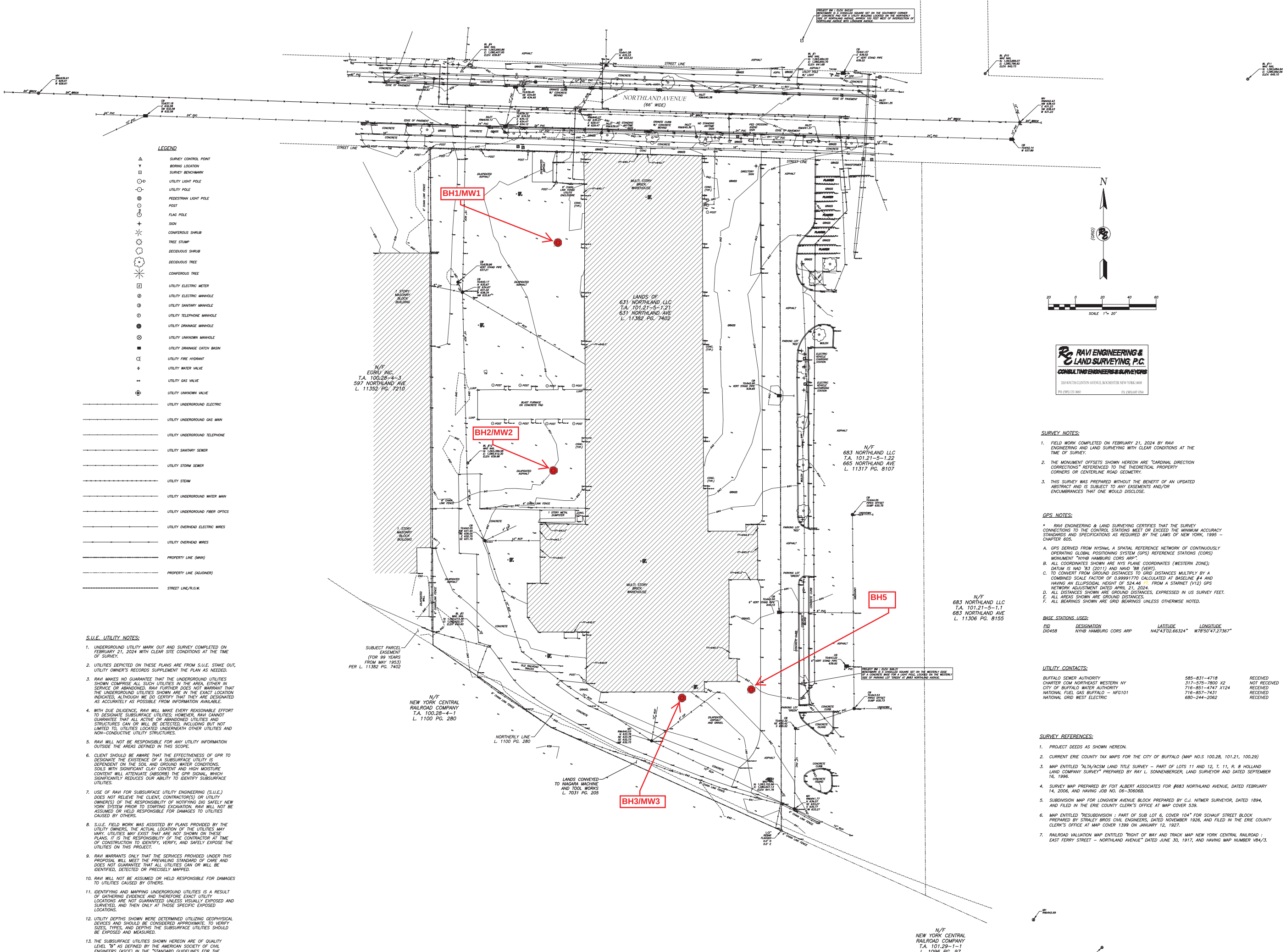
1. IT IS A VIOLATION OF NEW YORK EDUCATION LAW 7209.2 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR, TO ALTER THESE PLANS IN ANY WAY. IF ALTERED, THE PERSON WHO ALTERED THE PLANS SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW 7209.2.

2. ONLY COPIES OF THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S STAMPED SEAL SHALL BE CONSIDERED VALID TRUE COPIES.

3. THIS MAP MAY NOT BE USED IN CONJUNCTION WITH A "SURVEY AFFIDAVIT" OR SIMILAR DOCUMENT STATEMENT OR MECHANISM TO OBTAIN TITLE INSURANCE FOR ANY SUBSEQUENT OR FUTURE GRANTEES.

4. THIS PARCEL IS SUBJECT TO ANY EASEMENTS OR ENCUMBRANCES OF RECORD.

	DATE	REVISION
1	5/30/24	FINISH FLOOR ELEV.



LEGEND

- SURVEY CONTROL POINT
- BORING LOCATION
- SURVEY BENCHMARK
- UTILITY LIGHT POLE
- UTILITY POLE
- PEDESTRIAN LIGHT POLE
- POST
- FLAG POLE
- SIGN
- CONIFEROUS SHRUB
- TREE STUMP
- DECIDUOUS SHRUB
- DECIDUOUS TREE
- CONIFEROUS TREE
- UTILITY ELECTRIC METER
- UTILITY ELECTRIC MANHOLE
- UTILITY SANITARY MANHOLE
- UTILITY TELEPHONE MANHOLE
- UTILITY DRAINAGE MANHOLE
- UTILITY UNKNOWN MANHOLE
- UTILITY DRAINAGE CATCH BASIN
- UTILITY FIRE HYDRANT
- UTILITY WATER VALVE
- UTILITY GAS VALVE
- UTILITY UNKNOWN VALVE
- UTILITY UNDERGROUND ELECTRIC
- UTILITY UNDERGROUND GAS MAIN
- UTILITY UNDERGROUND TELEPHONE
- UTILITY SANITARY SEWER
- UTILITY STORM SEWER
- UTILITY STEAM
- UTILITY UNDERGROUND WATER MAIN
- UTILITY UNDERGROUND FIBER OPTICS
- UTILITY OVERHEAD ELECTRIC WIRES
- UTILITY OVERHEAD WIRES
- PROPERTY LINE (MAIN)
- PROPERTY LINE (ADJOINER)
- STREET LINE/R.O.W.

S.U.E. UTILITY NOTES:

1. UNDERGROUND UTILITY MARK OUT AND SURVEY COMPLETED ON FEBRUARY 21, 2024 WITH CLEAR SITE CONDITIONS AT THE TIME OF SURVEY.
2. UTILITIES DEPICTED ON THESE PLANS ARE FROM S.U.E. STAKE OUT, UTILITY OWNER'S RECORDS SUPPLEMENT THE PLAN AS NEEDED.
3. RAVI MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. RAVI FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH WE DO CERTIFY THAT THEY ARE DESIGNATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
4. WITH DUE DILIGENCE, RAVI WILL MAKE EVERY REASONABLE EFFORT TO DESIGNATE SUBSURFACE UTILITIES; HOWEVER, RAVI CANNOT GUARANTEE THAT ALL ACTIVE OR ABANDONED UTILITIES AND STRUCTURES CAN OR WILL BE DETECTED, INCLUDING BUT NOT LIMITED TO, UTILITIES LOCATED UNDERNEATH OTHER UTILITIES AND NON-CONDUCTIVE UTILITY STRUCTURES.
5. RAVI WILL NOT BE RESPONSIBLE FOR ANY UTILITY INFORMATION OUTSIDE THE AREAS DEFINED IN THIS SCOPE.
6. CLIENT SHOULD BE AWARE THAT THE EFFECTIVENESS OF GPR TO DESIGNATE THE EXISTENCE OF A SUBSURFACE UTILITY IS DEPENDENT ON THE SOIL AND GROUND WATER CONDITIONS. SOILS WITH SIGNIFICANT CLAY CONTENT AND HIGH MOISTURE CONTENT WILL ATTENUATE (ABSORB) THE GPR SIGNAL, WHICH SIGNIFICANTLY REDUCES OUR ABILITY TO IDENTIFY SUBSURFACE UTILITIES.
7. USE OF RAVI FOR SUBSURFACE UTILITY ENGINEERING (S.U.E.) DOES NOT RELIEVE THE CLIENT, CONTRACTOR(S) OR UTILITY OWNER(S) OF THE RESPONSIBILITY OF NOTIFYING DIG SAFELY NEW YORK SYSTEM PRIOR TO STARTING EXCAVATION. RAVI WILL NOT BE ASSUMED OR HELD RESPONSIBLE FOR DAMAGES TO UTILITIES CAUSED BY OTHERS.
8. S.U.E. FIELD WORK WAS ASSISTED BY PLANS PROVIDED BY THE UTILITY OWNERS. THE ACTUAL LOCATION OF THE UTILITIES MAY VARY. UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THESE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AT TIME OF CONSTRUCTION TO IDENTIFY, VERIFY, AND SAFELY EXPOSE THE UTILITIES ON THIS PROJECT.
9. RAVI WARRANTS ONLY THAT THE SERVICES PROVIDED UNDER THIS PROPOSAL WILL MEET THE PREVAILING STANDARD OF CARE AND DOES NOT GUARANTEE THAT ALL UTILITIES CAN OR WILL BE IDENTIFIED, DETECTED OR PRECISELY MAPPED.
10. RAVI WILL NOT BE ASSUMED OR HELD RESPONSIBLE FOR DAMAGES TO UTILITIES CAUSED BY OTHERS.
11. IDENTIFYING AND MAPPING UNDERGROUND UTILITIES IS A RESULT OF GATHERING EVIDENCE AND THEREFORE EXACT UTILITY LOCATIONS ARE NOT GUARANTEED UNLESS VISUALLY EXPOSED AND SURVEYED, AND THEN ONLY AT THOSE SPECIFIC EXPOSED LOCATIONS.
12. UTILITY DEPTHS SHOWN WERE DETERMINED UTILIZING GEOPHYSICAL DEVICES AND SHOULD BE CONSIDERED APPROXIMATE. TO VERIFY SIZES, TYPES, AND DEPTHS THE SUBSURFACE UTILITIES SHOULD BE EXPOSED AND MEASURED.
13. THE SUBSURFACE UTILITIES SHOWN HEREON ARE OF QUALITY LEVEL "B" AS DEFINED BY THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) IN THE "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

RAVI ENGINEERING & LAND SURVEYING, P.C.
CONSULTING ENGINEERS & SURVEYORS
210 SOUTH CLINTON AVENUE, ROCHESTER NEW YORK 14618
PH: (585) 223 1060 FX: (585) 607 1564

SURVEY NOTES:

1. FIELD WORK COMPLETED ON FEBRUARY 21, 2024 BY RAVI ENGINEERING AND LAND SURVEYING WITH CLEAR CONDITIONS AT THE TIME OF SURVEY.
2. THE MONUMENT OFFSETS SHOWN HEREON ARE "CARDINAL DIRECTION CORRECTIONS" REFERENCED TO THE THEORETICAL PROPERTY CORNERS OR CENTERLINE ROAD GEOMETRY.
3. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UPDATED ABSTRACT AND IS SUBJECT TO ANY EASEMENTS AND/OR ENCUMBRANCES THAT ONE WOULD DISCLOSE.

GPS NOTES:

* RAVI ENGINEERING & LAND SURVEYING CERTIFIES THAT THE SURVEY CONNECTIONS TO THE CONTROL STATIONS MEET OR EXCEED THE MINIMUM ACCURACY STANDARDS AND SPECIFICATIONS AS REQUIRED BY THE LAWS OF NEW YORK, 1995 – CHAPTER 605.

A. GPS DERIVED FROM NYSNet, A SPATIAL REFERENCE NETWORK OF CONTINUOUSLY OPERATING GLOBAL POSITIONING SYSTEM (GPS) REFERENCE STATIONS (CORS) MONUMENT "NYHB HAMBURG CORS ARP".
B. ALL COORDINATES SHOWN ARE NYS PLANE COORDINATES (WESTERN ZONE); DATUM IS NAD "83 (2011) AND NAVD "88 (VERT).
C. TO CONVERT FROM GROUND DISTANCES TO GRID DISTANCES MULTIPLY BY A COMBINED SCALE FACTOR OF 0.99991770 CALCULATED AT BASELINE #4 AND HAVING AN ELLIPSOIDAL HEIGHT OF 524.46 FT. FROM A STARNET (V12) GPS NETWORK ADJUSTMENT DATED APRIL 21, 2024.
D. ALL DISTANCES SHOWN ARE GROUND DISTANCES, EXPRESSED IN US SURVEY FEET.
E. ALL AREAS SHOWN ARE GROUND DISTANCES.
F. ALL BEARINGS SHOWN ARE GRID BEARINGS UNLESS OTHERWISE NOTED.

BASE STATIONS USED:

PID	DESIGNATION	LATITUDE	LONGITUDE
DI0458	NYHB HAMBURG CORS ARP	N42°43'02.66324"	W78°50'47.27367"

UTILITY CONTACTS:

BUFFALO SEWER AUTHORITY	585–831–4718	RECEIVED
CHARTER COM NORTHEAST WESTERN NY	317–575–7800 X2	NOT RECEIVED
CITY OF BUFFALO WATER AUTHORITY	716–851–4747 X124	RECEIVED
NATIONAL FUEL GAS BUFFALO – NFG101	716–857–7431	RECEIVED
NATIONAL GRID WEST ELECTRIC	680–244–2062	RECEIVED

SURVEY REFERENCES:

1. PROJECT DEEDS AS SHOWN HEREON.
2. CURRENT ERIE COUNTY TAX MAPS FOR THE CITY OF BUFFALO (MAP NO.S 100.28, 101.21, 100.29)
3. MAP ENTITLED "ALTA/ACSM LAND TITLE SURVEY – PART OF LOTS 11 AND 12, T. 11, R. 8 HOLLAND LAND COMPANY SURVEY" PREPARED BY KAH L. SONNENBERGER, LAND SURVEYOR AND DATED SEPTEMBER 16, 1996.
4. SURVEY MAP PREPARED BY FOIT ALBERT ASSOCIATES FOR #683 NORTHLAND AVENUE, DATED FEBRUARY 14, 2006, AND HAVING JOB NO. 06–30606B.
5. SUBDIVISION MAP FOR LONGVIEW AVENUE BLOCK PREPARED BY C.J. HITNER SURVEYOR, DATED 1894, AND FILED IN THE ERIE COUNTY CLERK'S OFFICE AT MAP COVER 539.
6. MAP ENTITLED "RESUBDIVISION : PART OF SUB LOT 6, COVER 104" FOR SCHAUF STREET BLOCK PREPARED BY STRALEY BROS CIVIL ENGINEERS, DATED NOVEMBER 1926, AND FILED IN THE ERIE COUNTY CLERK'S OFFICE AT MAP COVER 1399 ON JANUARY 12, 1927.
7. RAILROAD VALUATION MAP ENTITLED "RIGHT OF WAY AND TRACK MAP NEW YORK CENTRAL RAILROAD : EAST FERRY STREET – NORTHLAND AVENUE." DATED JUNE 30, 1917, AND HAVING MAP NUMBER V84/3.

Appendix B

Logs of Eight Geotechnical Borings, Prepared by Earth Dimensions

EARTH DIMENSIONS, INC.
Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 23C24 **Hole Number** SB-1-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/25/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/25/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	6	8	9	9		18		Gray concrete. 0.6 Dry to moist grayish brown very gravelly (SAND-SILT-CLAY) fill with 40 to 60% gravel, little to some sand, little clay, trace coal ash, glass, and cinders, very stiff, massive soil structure, (GC).	Concrete to 0.6 feet over mostly silt and gravel soil fill with little to some sand, little clay, trace coal ash, glass, and cinders to 4.5 feet over clayey soil fill with trace sand and gravel to 6.5 feet over silty slack water sediment with little to some clay, little sand, trace organic matter to 7.5 feet over clayey slack water sediment with trace sand and an occasional dropstone to 9.2 feet over water sorted and deposited silt with little to some sand, little gravel, trace to little clay to auger refusal.
	2	16	8	8	10	8				
	3	20	9	17			27		4.5 Moist brown to reddish brown (SILTY-CLAY) fill with 0 to 5% gravel, trace sand, stiff to very stiff, massive soil structure, (CL).	
5					10	7			grades downward to 6.5	
	4	14	4	5	5		10		Moist dark gray (SAND-SILT-CLAY) with little to some clay, little sand, trace organic matter, stiff, weakly thinly beddedand thinly laminated, (ML-CL) tending toward (CL). 7.5	Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 11.8 feet. Bore hole was backfilled with cuttings and ground surface repaired with a concrete patch.
						8				
	5	20	5	6	8	10	14		clear transition to 9.2	
10	6	20	6	10	11	50/3	21		Moist brown to reddish brown (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff to very stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL).	No water at completion.
									clear transition to 11.8	
									Moist to wet olive brown (SAND-SILT-CLAY) with 10 to 20% gravel, little to some sand, trace to little clay, very stiff to hard, weakly thinly bedded to stratified, (ML-CL).	
									Advanced augers to refusal at 11.8 feet.	
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

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Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
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EDI Job Code: 23C24 **Hole Number** SB-2-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/24/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/24/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	18	9	3	5	6	8		Dark gray asphalt pavement. 0.2 Moist dark gray gravelly (SILTY-SAND) fill with 40 to 60% gravel, little to some silt, trace organic matter, loose to compact, massive soil structure, (SM),(GM). 1.0	Asphalt pavement to 0.2 feet over mostly sand and gravel fill with little to some silt, trace organic matter to 1.0 feet over clayey slack water sediment with trace sand and gravel to 3.0 feet over clayey slack water sediment with trace sand to 4.0 feet over clayey slack water sediment with trace to little sand, trace gravel to 7.4 feet over water sorted and deposited sand with little to some gravel, trace to little silt to 8.0 feet over water sorted and deposited sand with little to some silt and gravel to auger refusal.
	2	20	3	5	5	7	10		Moist brown (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL). 3.0	
5	3	24	3	5	8	11	13		Moist dark gray to gray (SILTY-CLAY) with trace sand, stiff, thinly laminated with very thin coarse silt lenses, (CL). 4.0 grades downward to	
	4	20	5	8	9	11	17		Moist faintly mottled reddish brown (SAND-SILT-CLAY) with 0 to 5% gravel, some clay, trace to little sand, stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL). 7.4 8.0 grades downward to	
	5	12	6	23	50/1				Moist brownish gray gravelly (SILTY-SAND) with 10 to 25% gravel, trace to little silt, compact, stratified, (SM). 9.6 grades downward to Moist olive brown to brown gravelly (SILTY-SAND) with 10 to 25% gravel, mostly fine size sand, little to some silt, compact, weakly thinly bedded to stratified, (SM). Advanced augers to refusal at 9.6 feet.	No water at completion. Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 9.6 feet. Bore hole was backfilled with cuttings and ground surface repaired with an asphalt patch.
10										
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

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EDI Job Code: 23C24 **Hole Number** SB-3-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/26/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/26/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
									Gray concrete. 0.6	Concrete to 0.6 feet over sandy soil fill with little to some silt, trace to little gravel, trace clay, coal ash, brick fragments, cinders, and slag to 2.2 feet over mostly crushed stone fill with trace silt to 5.5 feet over clayey soil fill with trace sand, gravel, and coal ash to 8.0 feet over silty soil fill with little sand and clay, trace to little gravel, trace glass to 9.5 feet over clayey slack water sediment with trace sand and organic matter to 10.0 feet over clayey slack water sediment with trace sand and an occasional dropstone to 15.7 feet over water sorted and deposited sand with little to some silt and gravel to auger refusal.
	1	16	8	7	11				Moist dark gray (SILTY-SAND) with 5 to 20% gravel, little to some silt, trace clay, coal ash, brick fragments, cinders, and slag, compact, massive soil structure, (SM). 2.2	
	2		13							
		10		15	16	9	31		Dry gray very gravelly (SAND) fill with 60 to 80% mostly angular gravel, trace silt, dense, massive soil structure, (GM),(GW).	
	3	12	7	11						
5					13	9	24		5.5	
	4	18	3	5	4		9		Moist brown (SILTY-CLAY) with 5 to 10% gravel, trace sand and coal ash, stiff to very stiff, massive soil structure, (CL).	
						5			8.0	
	5	8	2	2	4	5	6		Moist brown (SAND-SILT-CLAY) fill with 5 to 15% gravel, little sand and clay, trace glass, firm, massive soil structure, (ML-CL). 9.5	Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 16.3 feet. Bore hole was backfilled with cuttings and ground surface repaired with a concrete patch.
10									grades downward to 10.0	
	6	24	4	8	13	16	21		Moist dark gray (SILTY-CLAY) with trace sand and organic matter, stiff, weakly thinly laminated, (CL).	
	7		9						grades downward to	
		24		12	17	25	29		Moist brown to reddish brown (SILTY-CLAY) 0 to 3% gravel, trace sand, very stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL).	
	8	24	7	12						
15					16	21	28		15.7	No water at completion.
	9	0	50/1						Moist to wet olive brown gravelly (SILTY-SAND) with 10 to 25% gravel, little to some silt, dense to very dense, weakly thinly bedded to stratified, (SM). 16.3	
									Advanced augers to refusal at 16.3 feet.	
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

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EDI Job Code: 23C24 **Hole Number** SB-4-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/24/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/24/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
									Gray concrete. 0.7	Concrete to 0.7 feet over sandy soil fill with little to some gravel, trace to little silt, trace coal ash to 2.0 feet over coarse silty soil fill with some sand, little to some gravel, trace brick fragments, cinders, coal ash, and slag to 4.5 feet over clayey soil fill with trace sand and gravel to 6.5 feet over clayey slack water sediment with trace sand and an occasional dropstone to 13.4 feet over water sorted and deposited sand with little to some silt and gravel to auger refusal.
	1	8	11	16					Dry dark gray gravelly (SILTY-SAND) fill with 15 to 30% gravel, trace to little silt, trace coal ash, compact, massive soil structure, (SM). 2.0	
	2	10	15	10			24		Moist dark gray gravelly (SANDY-SILT) fill with 10 to 25% gravel, some sand, trace brick fragments, cinders, coal ash, and slag, compact to dense, massive soil structure, (ML). 4.5	
	3	20	7	5	14	28	11		Moist dark gray to brown (SILTY-CLAY) fill with 0 to 5% gravel, trace sand, stiff, massive soil structure, (CL).	
5					6	6			grades downward to 6.5	
	4	24	3	4	5	7	9		Moist grayish brown to reddish brown (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL).	
	5	24	5	8			20			Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous spilt spoon sampling to auger refusal at 15.7 feet. Bore hole was backfilled with cuttings and ground surface repaired with concrete patch.
10					12	15				
	6	24	4	10	15	21	25			
	7	24	6	12	17	25	29		grades downward to 13.4	
	8	16	28	39	50/4				Moist, wet below 14.5 feet, olive brown gravelly (SILTY-SAND) with 10 to 25% gravel, mostly fine size sand, little to some silt, dense, weakly thinly bedded to stratified, (SM). 15.7	No water at completion.
15									Advanced augers to refusal at 15.7 feet.	
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

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EDI Job Code: 23C24 **Hole Number** SB-5-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/24/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/24/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	16	13	8	6	9	14		Dark gray asphalt pavement. 0.2 Dry dark gray very gravelly (SILTY-SAND) fill with 40 to 60% gravel, trace to little silt, compact, massive soil structure, (SM),(GM). 0.7	Asphalt pavement to 0.2 feet over sand and gravel fill with trace to little silt to 0.7 feet over clayey soil fill with trace to little sand, trace gravel, coal, and brick fragments to 4.0 feet over silty slack water sediment with little clay, trace sand and organic matter to 5.0 feet over silty slack water sediment with little to some clay, little sand to 6.1 feet over clayey slack water sediment with trace sand and an occasional dropstone to 8.5 feet over water sorted and deposited sand with little to some silt and gravel to auger refusal.
	2	16	6	5	4	3	9		Moist dark gray (SILTY-CLAY) fill with 5 to 10% gravel, trace to little sand, trace coal and brick fragments, stiff to very stiff, massive soil structure, (CL).	
									grades downward to 4.0	
5	3	20	3	4	7	9	11		Moist dark brown (CLAYEY-SILT) with little clay, trace sand and organic matter, firm, weakly thinly bedded, (ML-CL). 5.0	
									grades downward to 6.1	
	4	22	4	6	8	10	14		Moist olive brown (SAND-SILT-CLAY) with little to some clay, little sand, stiff, weakly thinly laminated, (ML-CL) tending toward (CL).	Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 11.5 feet. Bore hole was backfilled with cuttings and ground surface repaired with an asphalt patch.
									grades downward to	
	5	24	8	12	18	25	30		Moist reddish brown (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL). 8.5	
10									clear transition to	
	6	15	8	15	50/3				Moist olive brown gravelly (SILTY-SAND) with 10 to 25% gravel, mostly fine size sand, little to some silt, compact to dense, weakly thinly bedded to stratified, (SM). 11.5	No water at completion.
									Advanced augers to refusal at 11.5 feet.	
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

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Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
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EDI Job Code: 23C24 **Hole Number** SB-6-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/25/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/25/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
									Gray concrete. 0.7	Concrete to 0.7 feet over coarse silty soil fill with some sand and gravel, trace concrete debris and slag to 2.0 feet over clayey soil fill with trace sand and gravel to 3.8 feet over sandy soil fill with little to some silt, little gravel, trace glass, brick fragments, coal ash, and slag to 6.2 feet over clayey slack water sediment with trace sand and organic matter to 7.5 feet over clayey slack water sediment with trace sand and gravel to 12.5 feet over water sorted and deposited sand with little to some silt and gravel to auger refusal.
	1	6	18	32					Dry grayish brown very gravelly (SANDY-SILT) fill with 40 to 60% gravel, some sand, trace concrete debris and slag, dense, massive soil structure, (GM). 2.0	
	2	14	4	4			8		Moist brown to reddish brown (SILTY-CLAY) fill with 0 to 5% gravel, trace sand, firm, massive soil structure, (CL). 3.8	
					4	4				
5	3	6	2	3	3	2	6		Moist to wet dark gray (SILTY-SAND) fill with 10 to 20% gravel, little to some silt, trace glass, brick fragments, coal ash, and slag, loose, massive soil structure, (SM).	
									grades downward to 6.2	
	4	24	1	1	2	4	3		Moist dark gray (SILTY-CLAY) with trace sand and organic matter, very soft, weakly thinly laminated, (CL). 7.5	
									grades downward to	Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 13.5 feet. Bore hole was backfilled with cuttings and ground surface repaired with concrete patch.
	5	24	5	8			20		Dry to moist reddish brown (SILTY-CLAY) with 0 to 5% gravel, trace sand, very stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL).	
10					12	15				
	6	22	6	11	17	19	28			
	7	13	13	18	50/1				clear transition to 12.5	
									Moist to wet olive brown (SILTY-SAND) with 10 to 25% gravel, little to some silt, dense, weakly thinly bedded to stratified, (SM). 13.5	No water at completion.
									Advanced augers to refusal at 13.5 feet.	
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

EARTH DIMENSIONS, INC.
Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 23C24 **Hole Number** SB-7-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/25/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/25/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	16	3	8	10	12	18		Dry gray very gravelly (SAND) fill with 60 to 80% mostly angular gravel, trace silt and organic matter, loose, massive soil structure, (GW). 0.5	Mostly crushed stone fill with trace silt and organic matter to 0.5 feet over sandy soil fill with some silt, little slag, trace to little gravel, trace metal, coal ash, cinders, and brick fragments to 4.0 feet over mostly crushed stone fill to 6.0 feet over clayey slack water sediment with trace sand and organic matter to 7.0 feet over clayey slack water sediment with trace sand and an occasional dropstone to 9.0 feet over water sorted and deposited sand with little to some silt and gravel to auger refusal.
	2	20	6	10	16	7	26		Moist dark brown (SILTY-SAND) fill with 5 to 15% gravel, some silt, little slag, trace metal, coal ash, cinders, and brick fragments, compact, massive soil structure, (SM). 4.0	
5	3	20	22	47	23	28	70		Moist to wet gray mostly angular gravel fill, very dense, (GW). grades downward to 6.0	
	4	22	3	3	6	10	9		Moist dark gray (SILTY-CLAY) with trace sand and organic matter, firm, weakly thinly laminated, (CL). 7.0 clear transition to	Note: Slight petroleum odor in sample taken from 4.0 to 6.0 feet. Odor likely due to nearby excavation for sewer line.
	5	15	6	8	50/3				Moist reddish brown (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL). 9.0	Note: Water first encountered at 5.0 feet below ground surface.
10									9.9 clear transition to Moist to wet grayish brown gravelly (SILTY-SAND) with 10 to 25% gravel, little to some silt, very dense, weakly thinly bedded to stratified, (SM). Advanced augers to refusal at 9.9 feet.	Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 9.9 feet. Bore hole was backfilled with cuttings to ground surface upon completion.
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

EARTH DIMENSIONS, INC.
Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 23C24 **Hole Number** SB-8-24 **Surface Elevation:**
Project Name: 631 Northland Avenue **Northing:** **Easting:**
Project Location: City of Buffalo, Erie County, NY **Date Started:** 4/25/2024
Client: Ravi Engineering & Land Surveying, P.C. **Date Completed:** 4/25/2024

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
									Dark gray asphalt. 1.0	Asphalt to 1.0 feet over sandy soil fill with little to some silt and gravel, little slag, trace brick framgents, cinders, and coal ash to 4.5 feet over clayey slack water sediment with trace sand and organic matter to 5.5 feet over clayey slack water sediment with trace sand and an occasional dropstone to 7.6 feet over silty slack water sediment with little to some clay, little sand and gravel to 8.3 feet over silty slack water sediment with little to some gravel, little sand and clay to auger refusal.
	1	12	34	50					Dry dark gray gravelly (SILTY-SAND) fill with 10 to 25% gravel, little to some silt, little slag, trace brick fragments, cinders, and coal ash, very dense, massive soil structure, (SM).	
	2	9	42	50/3						
	3	24	4	5	6	7	11		grades downward to 4.5 Moist brownish gray (SILTY-CLAY) with trace sand and organic matter, stiff, weakly thinly laminated, (CL). 5.5	Water level at 5.6 feet below ground surface at completion.
5	4	24	5	7	10	11	17		clear transition to Moist brown to reddish brown (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff to very stiff, thinly laminated with very thin coarse silt lenses and nearly vertical gray desiccation cracks, (CL). 7.6	
	5	12	3	8	2	50/1	10		clear transition to 8.3 Moist grayish brown (SAND-SILT-CLAY) with 10 to 20% gravel, little to some clay, little sand, firm to very stiff, weakly thinly laminated to thinly bedded, (ML-CL) tending toward (CL). 9.6	Note: Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 9.6 feet. Bore hole was backfilled with cuttings and ground surface repaired with an asphalt patch upon completion.
10									Wet gray gravelly (SAND-SILT-CLAY) with 10 to 25% gravel, little sand and clay, soft to hard, weakly thinly laminated and thinly bedded, (ML-CL). Advanced augers to refusal at 9.6 feet.	
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

Appendix C

Logs of Four Environmental Borings, Prepared by Ravi Engineering & Land Surveying

RAVI ENGINEERING & LAND SURVEYING, P.C.

631 Northland Avenue - BUDC
Buffalo NY

Boring #: BH1/MW-1
PROJECT #: 40-24-029
CHKD. BY: LZ

CONTRACTOR: NW Contracting, Inc.
DRILLER: Nate, Steve
RE&LS PERSONNEL: W. McAlpin

BORING LOCATION: Parking lot, NW side of bldg
GROUND SURFACE ELEVATION:
DATE: 4/11/2024

TYPE OF DRILL RIG:
CASING SIZE AND TYPE:
OVERBURDEN SAMPLING METHOD:
ROCK DRILLING METHOD: NA

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	Sample Data BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		PID (ppm)
1	13				50%	Med. Brown sandy CLAY fill, trace coal	0.0
	8						
	7						
2	5						
	5				60%		
3	3						
	8						
4	8						
	5				10%		0.0
5	5						
	9						
6	12					Medium brown CLAY fill with rock	
	8				90%		0.0
7	11						
	13						
8	22						
	7				70%	Bedrock 'Refusal at 9.3'	0.0
9	13						
	20						
10	50/2						
11						Bedrock well set 10' into clean limestone bedrock to a depth of 19.5' BGS. Drillers indicate there is a void in the bedrock indicating water movement.	0.0
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

LEGEND
S- Surficial Soil Sample
SS Subsurface Soil Sample

Sample (MW-1) at 0-2'
4/12 water level = 4.5'

GENERAL NOTES:
1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.
2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.
bgs = below ground surface
ppm = parts per million

BORING # BH1/MW1

RAVI ENGINEERING & LAND SURVEYING, P.C.

631 Northland Avenue - BUDC
Buffalo NY

Boring #: BH2/MW-2
PROJECT #: 40-24-029
CHKD. BY: LZ

CONTRACTOR: NW Contracting, Inc.
DRILLER: Nate, Vince
RE&LS PERSONNEL: PM

BORING LOCATION: Parking lot, west of bldg
GROUND SURFACE ELEVATION:
DATE: 4/10/2024

TYPE OF DRILL RIG:
CASING SIZE AND TYPE:
OVERBURDEN SAMPLING METHOD:
ROCK DRILLING METHOD: NA

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	Sample Data BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		PID (ppm)
1	12				25%	Blacktop 6" , SAND and GRAVEL over dry silt	0.0
	12						
	8						
2	5						
	6				60%	SILT, dry, tr. Clay	0.0
3	7						
	10						
4	3						
	6				80%		0.0
5	10						
	11						
6	19						
	25				90%	SILT, dry, tr. Clay over clay/silt TILL	0.0
7	8						
	14						
8	21						
	27				60%	clay/silt TILL	0.0
9	8						
	20						
10	50/5						
11						Bedrock Refusal @ 11.4 '. 'Bedrock well set 10' into clean limestone bedrock to a total depth of 21.5' BGS. Drillers indicate return water was lost.	0.0
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

LEGEND

S- Surficial Soil Sample
SS Subsurface Soil Sample

4/11 water level = 7.5

GENERAL NOTES:

1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.
2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.

bgs = below ground surface
ppm = parts per million

BORING #

RAVI ENGINEERING & LAND SURVEYING, P.C.

631 Northland Avenue - BUDC
Buffalo NY

Boring # MW-3
PROJECT #: 40-24-029
CHKD. BY: LZ

CONTRACTOR: NW
DRILLER: Nate, Vince
RE&LS PERSONNEL: W. McAlpin

BORING LOCATION: Parking lot, south of bldg
GROUND SURFACE ELEVATION:
DATE: 4/9/2024

TYPE OF DRILL RIG:
CASING SIZE AND TYPE:
OVERBURDEN SAMPLING METHOD:
ROCK DRILLING METHOD: NA

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	Sample Data BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		PID (ppm)
1	11				50%	Course dark SAND fill, some ash, trace slag	0.0
	8						
2	48						
	35						
3	38				50%	Course dark SAND fill, some ash, trace slag	0.0
	48						
4	29					Dark brown CLAY, some cinder, trace brick	
	18						
5	4				10%	Dark brown SAND fill	0.0
	5						
6	6						
	3						
7	7				40%	Dark brown CLAY, fill, trace tree roots	0.0
	2						
8	5						
	32						
9	55				0%		2.6
10							
11							
12							
13						Bedrock Refusal at 8.7 ft. 'Bedrock well set 10' into clean limestone bedrock to a total depth of 19.0' BGS. Drillers indicate return water was lost.	
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

LEGEND
S- Surficial Soil Sample
SS Subsurface Soil Sample

4/10 water level 6.4' B65, total depth 19'
Sample (MW-3) taken at 2-4 ft.

GENERAL NOTES:
1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.
2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.
bgs = below ground surface
ppm = parts per million

BORING #

RAVI ENGINEERING & LAND SURVEYING, P.C.

631 Northland Avenue - BUDC
Buffalo NY

Boring # BH-5
PROJECT #: 40-24-029
CHKD. BY: LZ

CONTRACTOR: NW
DRILLER: Nate, Steve
RE&LS PERSONNEL: W. McAlpin

BORING LOCATION: Parking lot, SE side of bldg
GROUND SURFACE ELEVATION:
DATE: 4/9/2024

TYPE OF DRILL RIG:
CASING SIZE AND TYPE:
OVERBURDEN SAMPLING METHOD:
ROCK DRILLING METHOD: NA

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	Sample Data BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		PID (ppm)
1					40%	Brown, CLAY LOAM, fill, trace asphalt	0.0
2							
3	7				40%		0.0
	7						
	9						
4	7						
5	16				40%	SANDY CLAY, fill, some ash, trace asphalt	0.0
	17						
	7						
6	6						
7	2				40%	Wet 'CLAY +SILT with mucky substance (potentially wet ash)	0.0
	1						
	1						
8	1						
9	1				40%	Dark grey SILT, saturated @ 8.5, over SILT +Gravel at 9.2'	0.0
	1						
	50/2						
10						Refusal at 9.2 feet	
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

LEGEND
S- Surficial Soil Sample
SS Subsurface Soil Sample

GENERAL NOTES:
1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.
2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.
bgs = below ground surface
ppm = parts per million

BORING #

LIMITED PRE-RENOVATION HAZARDOUS MATERIALS INSPECTION

631 Northland Avenue
Buffalo, New York 14211



Prepared For:

Wendel
375 Essjay Road, Suite 200
Williamsville, New York 14221

Prepared By:

Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Avenue, Suite 1
Rochester, New York 14618

February 2024

Project No. 43-24-029

DRAFT

Preface

A Limited Pre-Renovation Hazardous Materials Inspection consisting of a Limited Pre-Renovation Asbestos Survey/Inspection, Limited Polychlorinated Biphenyl (PCB) Material Survey, and Limited Lead Material Survey has been completed at 631 Northland Avenue, Buffalo, New York 14221. The results are included in this report and are presented in three (3) volumes, namely:

Volume 1 of 3: Limited Pre-Renovation Asbestos Survey/Inspection

Volume 2 of 3: Limited PCB Material Survey

Volume 3 of 3: Limited Lead Material Survey

Prepared by:



Briana Freeman
Environmental Scientist
Ravi Engineering & Land Surveying, P.C.

Reviewed by:



Benjamin L Reddy
Environmental Department Manager
Ravi Engineering & Land Surveying, P.C.

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

Volume 1 of 3

Prepared For:

Wendel
375 Essjay Road, Suite 200
Williamsville, New York 14221

Prepared By:

Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Avenue, Suite 1
Rochester, New York 14618

February 2024

Project No. 43-24-029

DRAFT

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

Volume 1 of 3

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EXECUTIVE SUMMARY

Ravi Engineering & Land Surveying, P.C. (RE&LS) was retained by Wendel to conduct a Limited Pre-Renovation Asbestos Survey/Inspection at 631 Northland Avenue, Buffalo, New York 14221. The initial Survey/Inspection was conducted from January 31 through February 1, 2024.

The scope of work was based on electronic correspondence between RE&LS and Wendel from July 2023 with follow-up correspondence in December 2023. Drawings of the building design from 1953 were provided by Wendel and included a ground floor and roof plan. As well as, detailed designs of the toilet rooms, furnace room, plumbing and the heating and ventilation systems. The Survey/Inspection included the entire structure with exception of the roof.

TABLE 1 – ASBESTOS SUMMARY TABLE

ASBESTOS-CONTAINING MATERIALS AND LOCATIONS
White exterior window glazing- exterior windows
Gray caulk- interior bay door
Gray quarry tile grout- toilet room
Light gray thin set- toilet room
Dark gray interior window caulk- interior windows
TRACE ASBESTOS-CONTAINING MATERIALS AND LOCATIONS
Light blue spray-on coating- plastic divider and floor around furnace control room
ASSUMED ASBESTOS-CONTAINING MATERIALS AND LOCATIONS
White hard insulation- exterior furnace
White steam pipe insulation- interior ceiling mount and connecting pipes
White rope gasket- on and around interior furnace
White mud fittings- pipe insulation
NON-ASBESTOS-CONTAINING MATERIALS
Black creosote on wood block flooring
Gray joint mortar on floor
Black caulk around flooring
Gray interior bay door caulk
White furnace insulation
White doorstop caulk
Brown quarry tile
Gray exterior window caulk
Gray exterior expansion joint caulk
Black exterior expansion joint caulk
White kiln fire brick
Black railroad track caulk
Dark gray interior window caulk
Black wire insulation
Tan fire brick- inside furnace
Light brown fire coating inside furnace
White exterior bay door caulk

White caulk around exhaust
Black exterior hopper sleeve
White exterior bay door caulk- by furnace

[1] *Trace amounts of Actinolite/tremolite indicate the presence of asbestos fibers. Although the trace material is not an asbestos-containing material, RE&LS recommends that this trace material be treated, handled and disposed of as an asbestos- containing material.*

Asbestos-containing materials (ACMs), assumed ACMs, and trace ACMs were identified in the proposed renovation areas. Locations of ACMs, assumed ACMs and trace ACMs are shown on the Asbestos Location Plans in Attachment B.

No renovation, renovation, remodeling, or repair work shall commence by any owner or owner's agent in areas where ACMs and/or suspect ACMs exist prior to the completion of asbestos abatement. The Construction Manager shall notify all subcontractors of the presence and locations of ACMs and suspect ACMs consistent with Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101. Suspect ACMs, not identified in this Survey/Inspection report, discovered during renovation or renovation activities shall be assumed to contain asbestos until laboratory analysis proves otherwise.

1.0 INTRODUCTION

Ravi Engineering & Land Surveying, P.C. (RE&LS) was retained by Wendel to conduct a Limited Pre-Renovation Asbestos Survey/Inspection at 631 Northland Avenue, Buffalo, New York 14221. Certified Asbestos Inspectors assessed interior and exterior spaces for suspect asbestos-containing building materials that will be impacted by the proposed renovation project to determine the presence, location, quantity, and condition of asbestos-containing materials (ACMs). The initial Survey/Inspection was conducted from January 31 through February 1, 2024.

2.0 PROJECT OVERVIEW

The Survey/Inspection was conducted to support the renovation project of 631 Northland Avenue, Buffalo, New York. The scope of work was based on electronic correspondence between RE&LS and Wendel from July 2023 with follow-up correspondence in December 2023. Drawings of the building design from 1953 were provided by Wendel and included a ground floor and roof plan. As well as, detailed designs of the toilet room, furnace room, plumbing and the heating and ventilation systems. The Survey/Inspection included the entire structure with exception of the roof.

3.0 RECORD REVIEW

RE&LS reviewed the lab results of samples taken by Fisher Associates and analyzed by AmeriSci Richmond in July, 2015, to determine the extent of material sampling previously performed at 631 Northland Avenue. A copy of the report is included in Attachment F.

4.0 SITE INSPECTION

The Survey/Inspection began with a visual assessment to identify homogeneous areas (HAs) that exist within the proposed renovation areas. The United States Environmental Protection Agency (USEPA) Asbestos Hazard Emergency Response Act (AHERA) regulations define an HA as, "…an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture." Further, HAs should be collected from each construction vintage (age) independently, even if newly constructed.

The Inspectors identified HAs that were present in each inspected location. Each HA was given a number corresponding to the identified material. HA numbers used by RE&LS in this Survey/Inspection were given the following alpha-numeric coding:

1A	Homogeneous Area Number 1, sample A (A, B, C, etc. refer to the total amount of samples collected for that HA based on AHERA sampling protocol)

Given this alpha-numeric coding, sample 1A can be identified as: *White exterior window glazing*, first sample. The areas of inspection applicable to this report are shown on the Sample Location Plans in Attachment A. HA numbers used for asbestos bulk sampling are listed in Table 2.

Twenty-eight (28) HAs, based on color and texture, were identified, of which fifty-two (52) samples were collected and submitted to Paradigm Environmental Services, Inc. (Paradigm) for asbestos analysis.

TABLE 2 – HOMOGENEOUS AREAS

Homogeneous Area No. (HA)	Material Description
1	White exterior window glazing
2	Black creosote on wood block flooring
3	Gray joint mortar on floor
4	Light blue spray-on coating
5	Black caulk around flooring
6	Gray caulk- interior bay door
7	White furnace insulation
8	White doorstop caulk
9	Gray quarry tile grout
10	Brown quarry tile
11	Light gray thin set
12	Gray exterior window caulk
13	Gray exterior expansion joint caulk
14	Black exterior expansion joint caulk
15	White kiln fire brick
16	Black railroad track caulk
17	Dark gray interior window caulk
18	Black wire insulation
19	Tan fire brick- inside furnace
20	Light brown fire coating inside furnace
21	White exterior bay door caulk
22	White caulk around exhaust
23	Black exterior hopper sleeve
24	White exterior bay door caulk- by furnace
25	White hard insulation
26	White steam pipe insulation
27	White rope gasket
28	White mud fittings

5.0 ASBESTOS BULK SAMPLING

RE&LS is a New York State Licensed Asbestos Contractor employing New York State Department of Health (NYSDOH)/USEPA Certified Asbestos Inspectors. Asbestos bulk sampling procedures were performed in compliance with all applicable Occupational Safety and Health Administration (OSHA), USEPA, and New York State (NYS) sampling protocols.

Bulk sample analysis was performed by Paradigm, an NYSDOH-approved laboratory. Friable samples were analyzed using NYS Environmental Laboratory Approval Program (ELAP) Method EPA 600/M4/82/020 Polarized Light Microscopy (PLM). Non-friable organically bound (NOB) samples were analyzed using NYS ELAP Method 198.6 PLM and, if found to be less than or equal to 1% asbestos by weight, NYS ELAP Method 198.4 Transmission Electron Microscopy (TEM). A copy of Paradigm's Certification is included in Attachment G.

6.0 ASBESTOS-CONTAINING MATERIALS AND LOCATIONS

ACMs, assumed ACMs, and trace ACMs were identified within the proposed renovation areas.

Table 3 identifies the ACMs, assumed ACMs and Trace ACM along with their descriptions, sample numbers, asbestos content, and approximate quantities. Locations of the ACMs are shown on the Asbestos Location Plans in Attachment B.

TABLE 3 – ASBESTOS-CONTAINING MATERIALS AND LOCATIONS

Homogeneous Area No. (HA)	Material Description and Location	Sample Numbers	Asbestos Content and Type of Analysis	Approximate Quantity
1	White window glaze- exterior windows	1A 1B 1C 1D	Chrysotile 1.3%-PLM Chrysotile-1.9%-TEM Chrysotile 2.6%-TEM Chrysotile 2.9%-TEM	3,425 SF
6	Gray caulk-interior bay door	6A 6B	Chrysotile 6.2%-PLM Chrysotile 4.3%-PLM	5 SF
9	Gray grout- toilet room	9A 9B	Chrysotile 1.5%-PLM Chrysotile 1.8%-PLM	1,612 SF
11	Light gray thin set- toilet room	11A 11B	Chrysotile 1.2%-PLM Chrysotile 1.5%-PLM	1,612 SF
17	Dark gray caulk- interior window frames	17A 17B	Chrysotile 2.8%-PLM Chrysotile 2.3%-PLM	3,425 SF
TRACE ASBESTOS-CONTAINING MATERIALS				
4[1]	Light blue spray-on coating- plastic divider and flooring around furnace control room	4A 4B 4C	Actinolite/Tremolite <1.0%-TEM Actinolite/Tremolite <1.0%-TEM Actinolite/Tremolite <1.0%-TEM	150 SF
PREVIOUSLY IDENTIFIED ASBESTOS-CONTAINING MATERIALS				
4[2]	White hard insulation- inside exterior furnace	4A 4B	2.0% Chrysotile – PLM NA/PS	4,800 SF
6[2]	White steam pipe insulation- interior ceiling mount and connecting pipes	6A	17.6% Chrysotile / 5.9% Amosite - PLM	1,700 LF

Homogeneous Area No. (HA)	Material Description and Location	Sample Numbers	Asbestos Content and Type of Analysis	Approximate Quantity
13[2]	Roof – Black Flashing Cement on Doors & Equipment	13A 13B	2.3% Chrysotile – PLM NA/PS	TBD
15[2]	White rope gasket-on and around interior furnace	15A	36.4% Chrysotile - PLM	5 SF
28	White mud fittings-pipe insulation	NA	Assumed	105 LF

[1] Trace amounts of Actinolite/Tremolite indicate the presence of asbestos fibers. Although this trace material is not an asbestos-containing material, RE&LS recommends that this trace material be treated, handled and disposed of as an asbestos-containing material.
[2] Samples were collected by Fisher Associates in 2015. Results for these samples are located in Attachment F
LF: Linear Feet
SF: Square Feet
PLM: Polarized Light Microscopy
TEM: Transmission Electron Microscopy
N/A: Not Applicable

7.0 LIMITATIONS OF THE INVESTIGATION

The Survey/Inspection included the spaces outlined in Section 2.0 Project Overview. Areas that were inaccessible, listed below, were not sampled nor identified. Suspect ACMs, not identified in this Survey/Inspection report, discovered during renovation or renovation activities shall be assumed to contain asbestos until laboratory analysis proves otherwise.

- Area below the “Rotoblast”
- Inside of the exterior furnace
- Electrical and switch boxes due to live electric in the building

8.0 FIELD NOTES

The following field notes were recorded by the Inspectors to strengthen the knowledge of the building materials and systems present. In most cases, the field notes capture observations that are not documented on the asbestos chain of custody forms or sample location drawings:

Interior

- A large portion of the tan/clear window panes are a plastic material.
- A sand pit is located in the northwest corner of the building.
- An underground hatch was located to the right of the furnace, hatch only opened approximately 3 inches due to rust making the area below inaccessible.
- Interior of the “Rotoblast” was fully metal and no caulks were observed.
- No vermiculite was noted coming from the holes in the concrete block walls.

- Rope gaskets and wire insulation were noted on both sides of the furnace.
- Fire doors noted to be hallow.
- Switch boxes and electrical boxes are considered to be suspect ACM, but were not sampled due to live electrical in the building.

Exterior

- The black joint filler (HA14) was only noted in sample location, it was not found in other exterior joints.
- White “fluffy” insulation inside of the exterior furnace was observed via a small approximately 3 feet inside the furnace. Insulation was not in reach to be able to sample and there was no other access inside of the furnace.

9.0 CONCLUSIONS

A Limited Pre-Renovation Asbestos Survey/Inspection was conducted at 631 Northland Avenue, Buffalo, New York 14221. The Survey/Inspection was based on the scope items as described in Section 2.0 Project Overview.

ACMs, assumed ACMs, and trace ACMs have been identified in the proposed renovation areas. Materials containing trace amounts of asbestos are not required to be handled or disposed of as an ACM. Locations of ACMs and assumed ACM are shown on the Asbestos Location Plans in Attachment B.

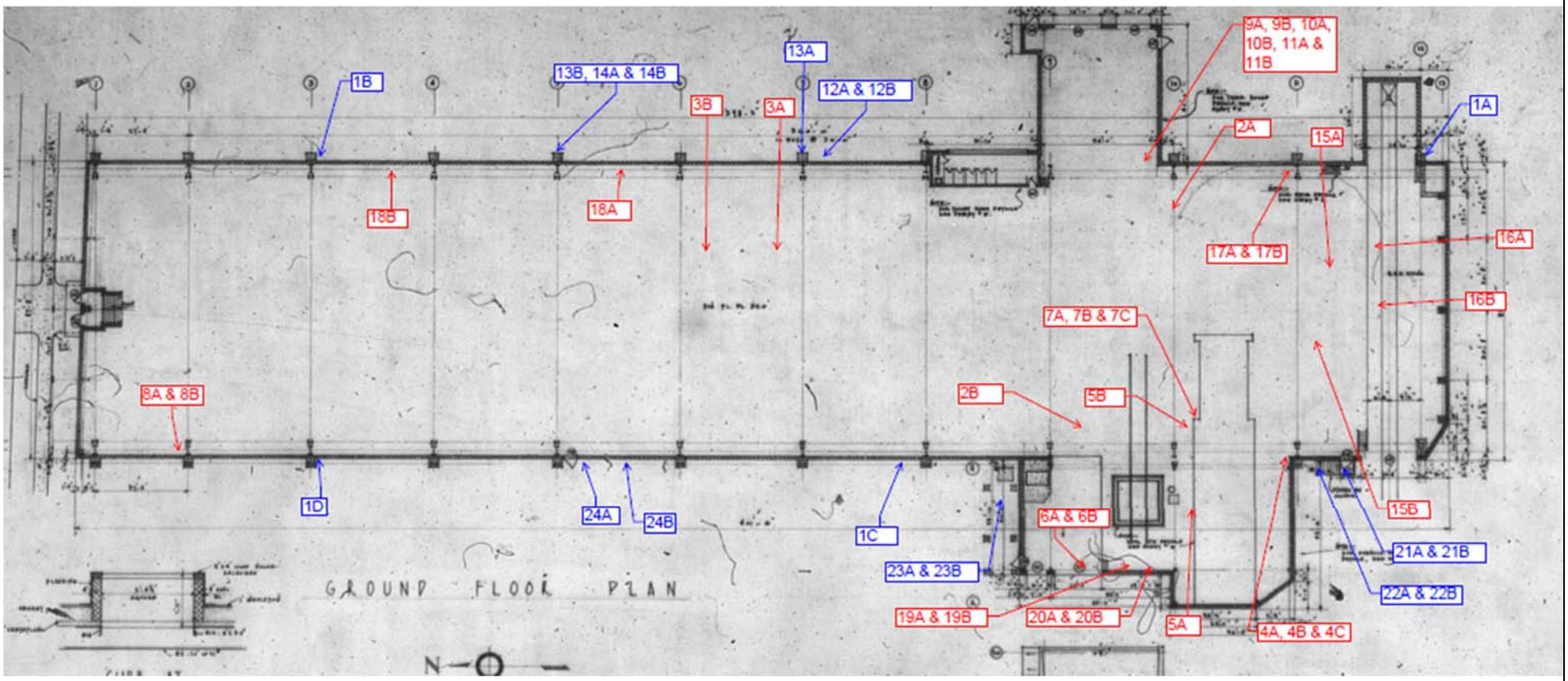
No renovation, renovation, remodeling, or repair work shall commence by any owner or owner’s agent in areas where ACMs and/or suspect ACMs exist prior to the completion of asbestos abatement. The Construction Manager shall notify all subcontractors of the presence and locations of ACMs and suspect ACMs consistent with Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101. Suspect ACMs, not identified in this Survey/Inspection report, discovered during renovation or renovation activities shall be assumed to contain asbestos until laboratory analysis proves otherwise.

ATTACHMENT A

Areas of Inspection/Bulk Sample Location Plans

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211



Legend:

Interior Sample Location

Exterior Sample Location

RAVI ENGINEERING & LAND SURVEYING, P.C.

2110 SOUTH CLINTON AVENUE, SUITE 1
ROCHESTER, NEW YORK 14618
TL: (585) 223-3660 FX: (585) 697-1764

631 NORTHLAND AVENUE
BUFFALO, NEW YORK 14211
LIMITED PRE-DEMOLITION ASBESTOS SURVEY/INSPECTION

PROJECT NUMBER: 43-24-029

DATE: FEBRUARY 2024

ATTACHMENT A
AREAS OF INSPECTION/BULK SAMPLE LOCATION PLAN

SCALE: N.T.S.

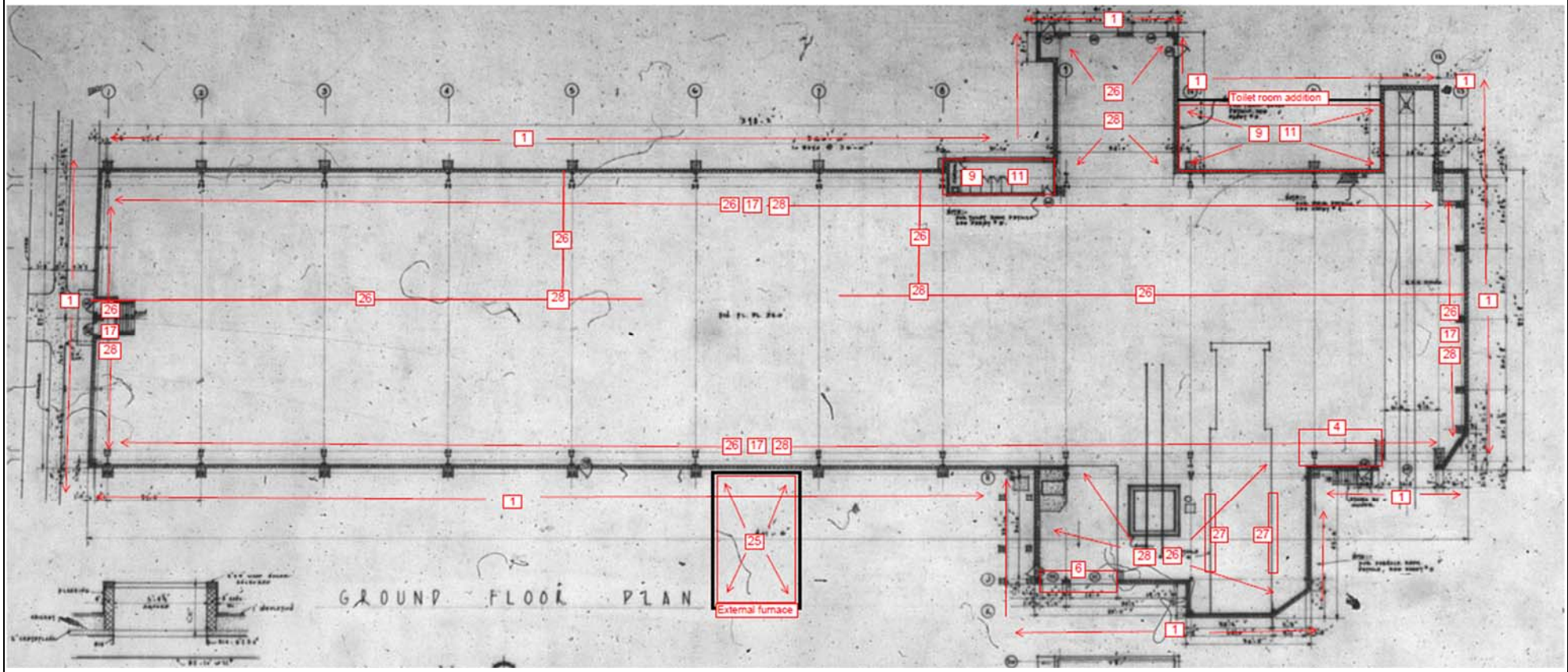
DRAWING NUMBER: DWG-1

ATTACHMENT B

Asbestos Location Plan

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211



1	White window glaze	11	Light gray thin set	27	White rope gasket
4	Light blue spray-on	17	Dark gray caulk	28	White mud fittings
6	Gray caulk- interior door	25	White hard insulation		
9	Gray Grout	26	White steam pipe insulation		

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PROJECT NUMBER: 43-24-029

DATE: FEBRUARY 2024

ATTACHMENT B
ASBESTOS LOCATION PLAN

SCALE: N.T.S.

DRAWING NUMBER: DWG-2

ATTACHMENT C

Asbestos-Containing Materials Summary Table

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

Asbestos-Containing Materials Summary Table						
Homogeneous Area No. (HA)	**Homogeneous Area Description**	**Location**	**Sample Numbers**	**Asbestos Content and Type of Analysis**	**Approximate Quantity**	**Note of Asbestos Location Plans**
1	White window glaze	Exterior windows	1A 1B 1C 1D	Chrysotile 1.3%-PLM Chrysotile-1.9%-TEM Chrysotile 2.6%-TEM Chrysotile 2.9%-TEM	3425 SF	1
6	Gray caulk	Interior bay door	6A 6B	Chrysotile 6.2%-PLM Chrysotile 4.3%-PLM	5 SF	6
9	Gray grout	Toilet room	9A 9B	Chrysotile 1.5%-PLM Chrysotile 1.8%-PLM	1612 SF	9
11	Light gray thin set	Toilet room	11A 11B	Chrysotile 1.2%-PLM Chrysotile 1.5%-PLM	1612 SF	11
17	Dark gray caulk	Interior window frames	17A 17B	Chrysotile 2.8%-PLM Chrysotile 2.3%-PLM	3425 SF	17

TRACE ASBESTOS-CONTAINING MATERIALS						
4[1]	Light blue spray-on coating	Plastic divider and flooring around furnace control room	4A 4B 4C	Actinolite/Tremolite <1.0%-TEM Actinolite/Tremolite <1.0%-TEM Actinolite/Tremolite <1.0%-TEM	150 SF	4
ASSUMED ASBESTOS-CONTAINING MATERIALS						
25	White hard insulation	Inside of exterior furnace	NA	Assumed	4800 SF	25
26	White steam pipe insulation	Interior ceiling mount and connected pipes	NA	Assumed	1700 LF	26
27	White rope gasket	On and around interior furnace	NA	Assumed	5 SF	27
28	White mud fittings	Pipe insulation	NA	Assumed	105 LF	28

[1] *Trace amounts of Actinolite/Tremolite indicate the presence of asbestos fibers; however, this material is not required to be handled or disposed of as an ACM.*

LF: Linear Feet
SF: Square Feet
PLM: Polarized Light Microscopy
TEM: Transmission Electron Microscopy
N/A: Not Applicable

ATTACHMENT D

Asbestos-Containing Materials Photo Log

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

Asbestos-Containing Materials Photo Log
631 Northland Avenue
Buffalo, New York 14211

Asbestos-Containing Materials

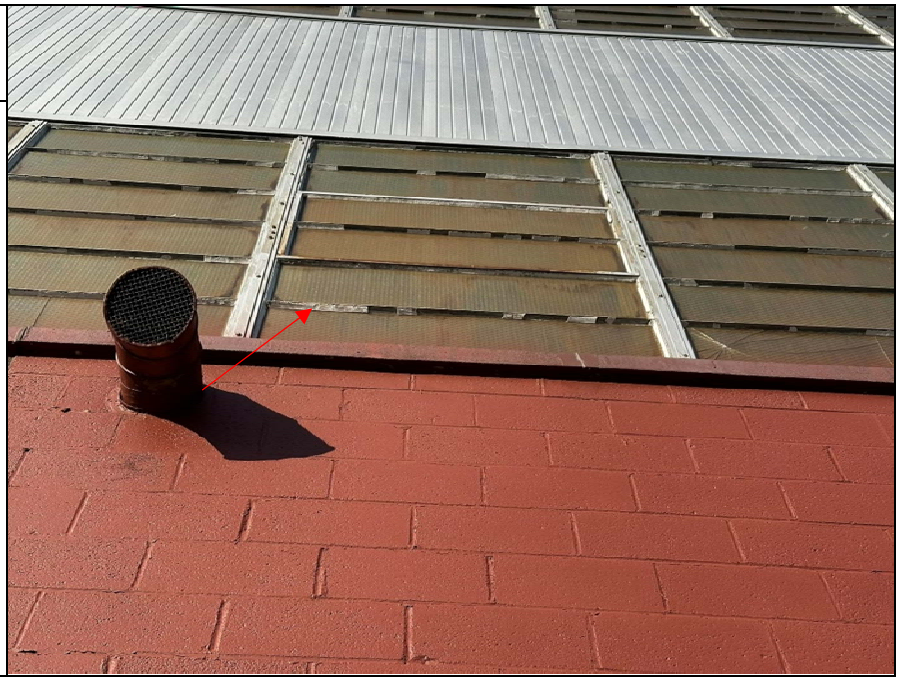
Photo 1	
HA# 1: White window glaze on exterior windows	

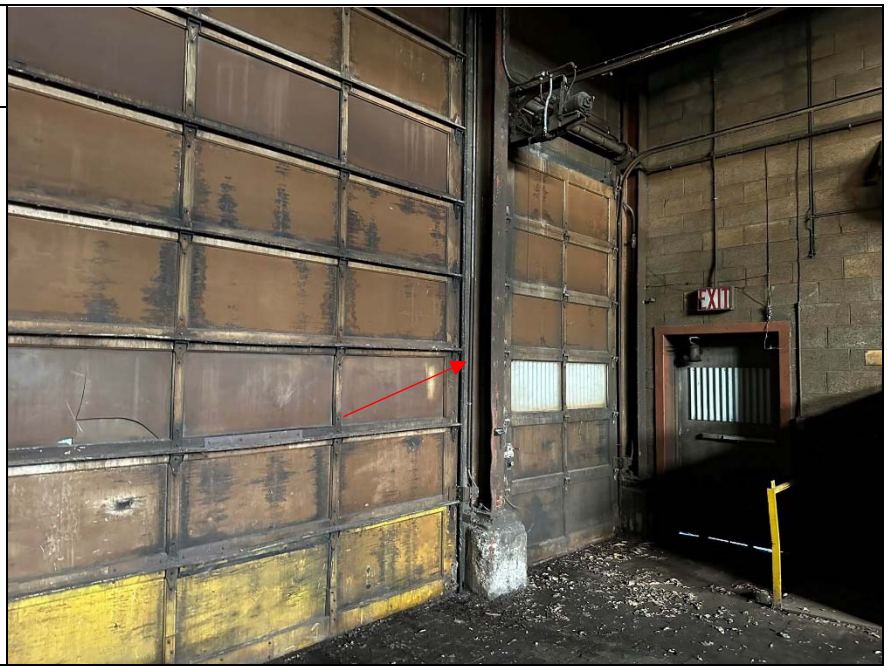
Photo 2	
HA# 6: Gray caulk on the interior bay door	

Photo 3	
HA# 9: Gray grout in the toilet rooms	

Photo 4	
HA# 11: Light gray thin set in the toilet rooms	

Photo 5	
HA# 17: Dark gray caulk on the interior window frames	

Trace Asbestos-Containing Materials

Photo 6	
HA# 4: Light blue spray-on coating on the plastic divers and flooring around the furnace room	

Assumed Asbestos-Containing Materials

Photo 7	
HA# 25: White hard insulation inside the exterior furnace	

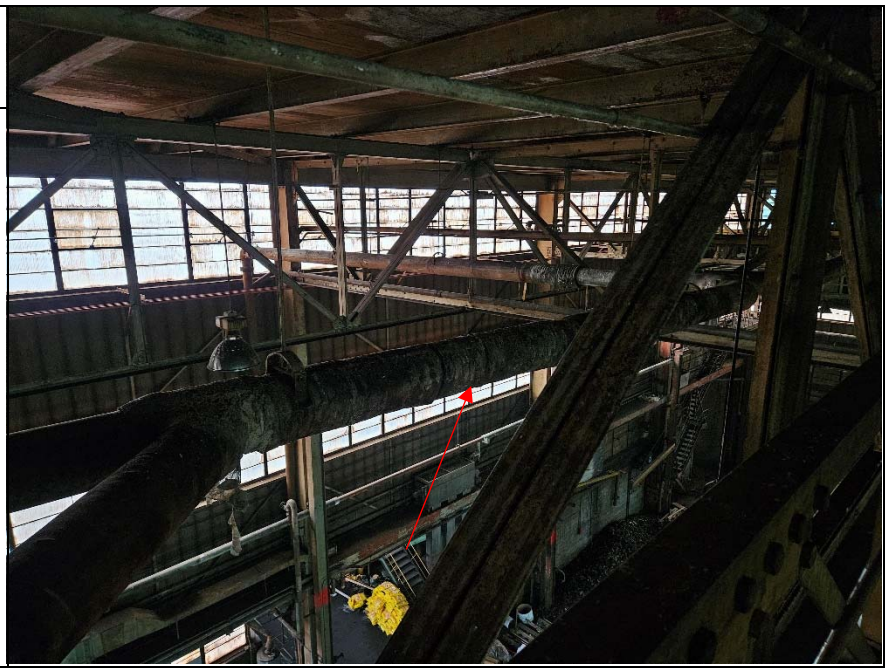
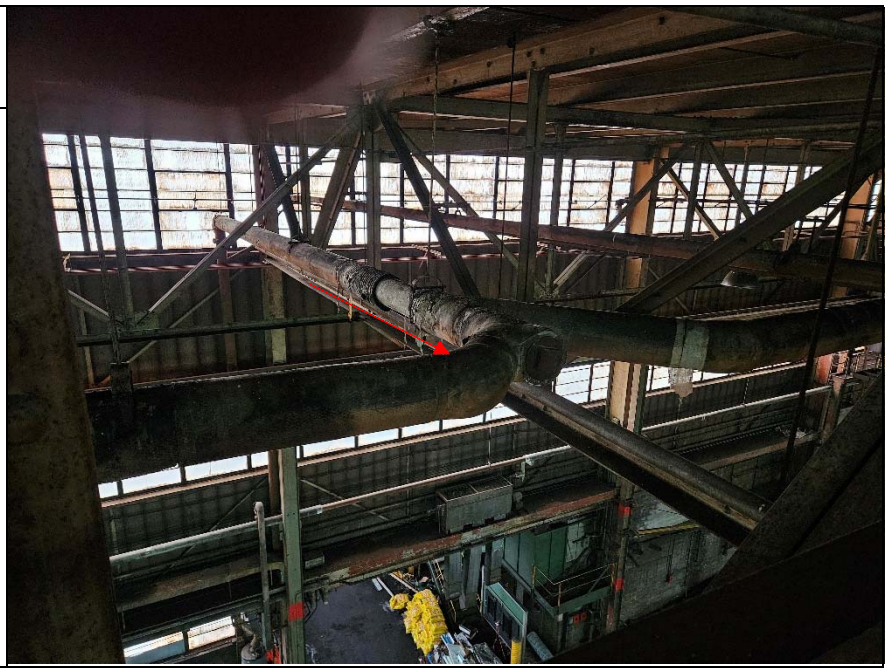
Photo 8	
HA# 26: White steam pipe insulation on interior ceiling mount and connecting pipes	

Photo 9	
HA# 27: White rope gasket on and near the furnace	

Photo 10	
HA# 28: White mud fittings on pipe insulation	

ATTACHMENT E

Analytical Reports and Chain of Custody Forms

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530

PLM & TEM BULK ASBESTOS ANALYSIS REPORT
via NYSDOH ELAP Method 198.1,198.4 and 198.6

Client: Ravi Engineering & Land Surveying, P.C.
Location: 631 Northland Avenue
Buffalo, New York
Sample Date: 1/31/2024-2/1/2024

Job No: 0733-24
Page: 1 of 12

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
1-A	6331	Exterior Northeast	White Window Glaze	Chrysotile 1.3%	1.3%	#	Not Required	N/A	None Detected	98.7%
1-B	6332	Exterior Southeast	White Window Glaze	Inconclusive Trace Chrysotile Detected	<1.0%	#	Chrysotile 1.9%	1.9%	None Detected	98.1%
1-C	6333	Exterior Southwest	White Window Glaze	Inconclusive Trace Chrysotile Detected	<1.0%	#	Chrysotile 2.6%	2.6%	None Detected	97.4%
1-D	6334	Exterior Northwest	White Window Glaze	Inconclusive Trace Chrysotile Detected	<1.0%	#	Chrysotile 2.9%	2.9%	None Detected	97.1%
2-A	6335	Interior South Floor	Black Coating	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
2-B	6336	Interior South Floor	Black Coating	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
3-A	6337	Floor Joint	Gray Mortar	None Detected	0%		Not Required	N/A	None Detected	100%
3-B	6338	Floor Joint	Gray Mortar	None Detected	0%		Not Required	N/A	None Detected	100%
4-A	6339	Plastic Divider at Furnace	Blue Spray-On Coating	Inconclusive No Asbestos Detected	0%	√	Actinolite/ Tremolite <1.0%	<1.0%	None Detected	100%
4-B	6340	Plastic Divider at Furnace	Blue Spray-On Coating	Inconclusive No Asbestos Detected	0%	√	Actinolite/ Tremolite <1.0%	<1.0%	None Detected	100%

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PLM Bulk Asbestos Analysis by New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.")or EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200530-0),

NVLAP TESTING

Lab Code 200530-0 for PLM Analysis

ELAP ID No.: 10958

Microscope: Olympus BH-2 #211874
PLM Analyst: T. Bush
Date of Analysis: 2/6/2024

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: F. Weinman
Date of Analysis: 2/8/2024

Laboratory Results Approved By:
Asbestos Technical Director or Designee Fernanda Weinman

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530

PLM & TEM BULK ASBESTOS ANALYSIS REPORT
via NYSDOH ELAP Method 198.1,198.4 and 198.6

Client: Ravi Engineering & Land Surveying, P.C.
Location: 631 Northland Avenue
Buffalo, New York
Sample Date: 1/31/2024-2/1/2024

Job No: 0733-24

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
4-C	6341	Plastic Divider at Furnace	Blue Spray-On Coating	Inconclusive No Asbestos Detected	0%	√	Actinolite/ Tremolite <1.0%	<1.0%	None Detected	100%
5-A	6342	Floor at Furnace	Black Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	Fiberglass 5%	95%
5-B	6343	Floor at Furnace	Black Fibrous Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	Fiberglass 10%	90%
6-A	6344	Garage Bay Door Interior	Gray Caulk	Chrysotile 6.2%	6.2%	√	Not Required	N/A	None Detected	93.8%
6-B	6345	Garage Bay Door Interior	Gray Caulk	Chrysotile 4.3%	4.3%	√	Not Required	N/A	None Detected	95.7%
7-A	6346	Furnace Interior	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Mineral Wool 100%	0%
7-B	6347	Furnace Interior	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Mineral Wool 100%	0%
7-C	6348	Furnace Interior	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Mineral Wool 100%	0%
8-A	6349	Floor at Door Stop	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
8-B	6350	Floor at Door Stop	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%

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NVLAP TESTING

ELAP ID No.: 10958

Lab Code 200530-0 for PLM Analysis

Microscope: Olympus BH-2 #211874
PLM Analyst: T. Bush
Date of Analysis: 2/6/2024

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: F. Weinman
Date of Analysis: 2/8/2024

Laboratory Results Approved By: _____
Asbestos Technical Director or Designee Fernanda Weinman

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9-A	6351	Bathroom Lockers	Gray Grout	Chrysotile 1.5%	1.5%		Not Required	N/A	None Detected	98.5%
9-B	6352	Bathroom Lockers	Gray Grout	Chrysotile 1.8%	1.8%		Not Required	N/A	None Detected	98.2%
10-A	6353	Bathroom Lockers	Brown Quarry Tile	None Detected	0%		Not Required	N/A	None Detected	100%
10-B	6354	Bathroom Lockers	Brown Quarry Tile	None Detected	0%		Not Required	N/A	None Detected	100%
11-A	6355	Bathroom Lockers	Light Gray Thinset	Chrysotile 1.2%	1.2%		Not Required	N/A	None Detected	98.8%
11-B	6356	Bathroom Lockers	Light Gray Thinset	Chrysotile 1.5%	1.5%		Not Required	N/A	None Detected	98.5%
12-A	6357	Bathroom Windows Exterior	Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
12-B	6358	Bathroom Windows Exterior	Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
13-A	6359	Exterior Expansion Joint Northeast	Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
13-B	6360	Exterior Expansion Joint East	Gray Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%

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PLM Analyst: T. Bush
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TEM Analyst: F. Weinman
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Laboratory Results Approved By:
Asbestos Technical Director or Designee Fernanda Weinman

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14-A	6361	Expansion Joint Exterior Northeast	Black Joint Filler	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
14-B	6362	Expansion Joint Exterior Northeast	Black Joint Filler	<1.0% Residue Remaining. PLM and TEM Not Required.	N/A	X	N/A	N/A	N/A	N/A
15-A	6363	Kiln at South End	White Fire Brick	None Detected	0%		Not Required	N/A	None Detected	100%
15-B	6364	Kiln at South End	White Fire Brick	None Detected	0%		Not Required	N/A	None Detected	100%
16-A	6365	Floor South End at Railroad Tracks	Black Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
16-B	6366	Floor South End at Railroad Tracks	Black Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
17-A	6367	Interior Windows Frames Northeast	Dark Gray Caulk	Chrysotile 2.8%	2.8%	√	Not Required	N/A	None Detected	97.2%
17-B	6368	Interior Windows Frames Southeast	Dark Gray Caulk	Chrysotile 2.3%	2.3%	√	Not Required	N/A	None Detected	97.7%
18-A	6369	East Catwalk Junction Box	Black Wire Insulation	<1.0% Residue Remaining. PLM and TEM Not Required.	N/A	X	N/A	N/A	N/A	N/A
18-B	6370	East Catwalk Junction Box	Black Wire Insulation	<1.0% Residue Remaining. PLM and TEM Not Required.	N/A	X	N/A	N/A	N/A	N/A

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NVLAP TESTING

ELAP ID No.: 10958

Lab Code 200530-0 for PLM Analysis

Microscope: Olympus BH-2 #211874
PLM Analyst: T. Bush
Date of Analysis: 2/7/2024

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: F. Weinman
Date of Analysis: 2/8/2024

Laboratory Results Approved By:
Asbestos Technical Director or Designee Fernanda Weinman

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Sample Date: 1/31/2024-2/1/2024

Job No: 0733-24

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
19-A	6371	Furnace Interior West End	Tan Fire Brick	None Detected	0%		Not Required	N/A	None Detected	100%
19-B	6372	Furnace Interior West End	Tan Fire Brick	None Detected	0%		Not Required	N/A	None Detected	100%
20-A	6373	Furnace Interior West	Light Brown Coating	None Detected	0%		Not Required	N/A	None Detected	100%
20-B	6374	Furnace Interior	Light Brown Coating	None Detected	0%		Not Required	N/A	None Detected	100%
21-A	6375	Exterior Garage Bay Door	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
21-B	6376	Exterior Garage Bay Door	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
22-A	6377	Exterior Southwest Exhaust	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
22-B	6378	Exterior Southwest Exhaust	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
23-A	6379	West Side Dust Collector	Black Fabric Sleeve	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
23-B	6380	West Side Dust Collector	Black Fabric Sleeve	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%

KEY TO NOB COLUMN SYMBOLS
No Symbol in the NOB column denotes sample analyzed by ELAP Method 198.1 (PLM).
√ NOB (non-friable organically bound)denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
V̂ denotes material analyzed by ELAP Method 198.6 (PLM) per NYSDOH. This Method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 # denotes friable material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
X denotes sample prepped only by ELAP Method 198.6.
**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Bulk Asbestos Analysis by New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.")or EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200530-0),

NVLAP TESTING

ELAP ID No.: 10958

Lab Code 200530-0 for PLM Analysis

Microscope: Olympus BH-2 #211874
PLM Analyst: T. Bush
Date of Analysis: 2/8/2024

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: M. Lochner
Date of Analysis: 2/9/2024

Laboratory Results Approved By: _____
Asbestos Technical Director or Designee Fernanda Weinman

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530

PLM & TEM BULK ASBESTOS ANALYSIS REPORT
via NYSDOH ELAP Method 198.1,198.4 and 198.6

Client: Ravi Engineering & Land Surveying, P.C.
Location: 631 Northland Avenue
Buffalo, New York
Sample Date: 1/31/2024-2/1/2024

Job No: 0733-24

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	Non-Fibrous Matrix Material %
24-A	6381	Exterior Bay Door at Exterior Furnace	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
24-B	6382	Exterior Bay Door at Exterior Furnace	White Caulk	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%

KEY TO NOB COLUMN SYMBOLS
No Symbol in the NOB column denotes sample analyzed by ELAP Method 198.1 (PLM).
√ NOB (non-friable organically bound)denotes material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
Ṽ denotes material analyzed by ELAP Method 198.6 (PLM) per NYSDOH. This Method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
 # denotes friable material analyzed by ELAP Method 198.6 (PLM) and 198.4 (TEM) as noted.
X denotes sample prepped only by ELAP Method 198.6.
**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.**
Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

PLM Bulk Asbestos Analysis by New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.")or EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200530-0),

NVLAP TESTING

ELAP ID No.: 10958

Lab Code 200530-0 for PLM Analysis

Microscope: Olympus BH-2 #211874
PLM Analyst: T. Bush
Date of Analysis: 2/7/2024

Microscope: JEOL-100CX-II #EM-156094-87
TEM Analyst: F. Weinman
Date of Analysis: 2/8/2024

Laboratory Results Approved By:
Asbestos Technical Director or Designee Fernanda Weinman

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CHAIN OF CUSTODY FOR BULK ASBESTOS ANALYSIS

RAVI RATES

1 OF 6

PARADIGM

[X] 179 Lake Avenue, Rochester, New York 14608 — Office: 585-647-2530
[ ] 1430 B Millersport Highway, Williamsville, NY 14221 — Office: 716-775-5777

Client: Ravi Engineering & Land Surveying, P.C.	**Contact:** Benjamin Reddy
Phone Number: 585-697-2083	**Email Address for Data:** breddy@ravieng.com bfreeman@ravieng.com
Client Mailing Address:	**Results To:** Benjamin Reddy, Briana Freeman
2110 South Clinton Avenue, Suite 1	**Date Sampled:** 1/31-2/1/24
Rochester, New York 14618	**Project Location:** 631 Northland Avenue Buffalo, NY
	Turn Around Time: 1 [ ] 2 [ ] 3 [ ] 5 [X] 7-9 Other [ ]
	Material Type/Quantity: Friable [X] NOB [X] TEM [X]

OFFICE USE ONLY

Job #: C733-24

Page 1 of 125

Date Logged In: 2/2/24

Logged In By: [illegible]

P1/6

	Client ID	Lab ID	Sampling Location	Color	Material Size	Type of Material
1	1A	6331 NT	EXTERIOR - NORTHEAST	WHITE		WINDOW GLAZE
2	1B	332	EXTERIOR - SOUTHEAST			
3	1C	333	EXTERIOR - SOUTHWEST			
4	1D	334	EXTERIOR - NORTHWEST			
5	2A	335	INTERIOR - SOUTH FLOOR	BLACK		COATING
6	2B	336	INTERIOR - SOUTH FLOOR	BLACK		COATING
7	3A	337	FLOOR - JOINT	GRAY		TS ~~GRAY~~ MORTAR
8	3B	338	FLOOR - JOINT	GRAY		~~GRAY~~ MORTAR
9	4A	339	PLASTIC DIVIDER @ FURNACE	BLUE		~~SPRAY~~ SPRAY ON COATING
10	4B	340	" " "	BLUE		COATING

Sampled By: Tim Szczepanek **Date:** 1/31 - 2/1/24

Transported to Paradigm By: [signature] **Date:** 2/2

Received By: [signature] **Date:** 2.2.24 950

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All samples will be analyzed by the appropriate New York State Department of Health methods (198.1,198.4 and 198.6) unless EPA 600/M4/82/020 per 40 CFR 763 and/or EPA 600/R-93/116 methods are requested.

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS [X]

or provide TEM contact name:

TOTAL NUMBER OF SAMPLES ON ALL CHAINS OF CUSTODY:

CHAIN OF CUSTODY FOR BULK ASBESTOS ANALYSIS

RAVI RATES

2 of 6

PARADIGM

[X] 179 Lake Avenue, Rochester, New York 14608 — Office: 585-647-2530
[ ] 1430 B Millersport Highway, Williamsville, NY 14221 — Office: 716-775-5777

Client: Ravi Engineering & Land Surveying, P.C.	**Contact:** Benjamin Reddy
Phone Number: 585-697-2083	**Email Address for Data:** breddy@ravieng.com bfreeman@ravieng.com
Client Mailing Address: 2110 South Clinton Avenue, Suite 1, Rochester, New York 14618	**Results To:** Benjamin Reddy, Briana Freeman
	Turn Around Time: 1 [ ] 2 [ ] 3 [ ] 5 [X] 2-3 Other [ ]
	Date Sampled: 1/31 - 2/1/24
	Material Type/Quantity: Friable [X] NOB [X] TEM [X]
	Project Location: 631 Northampton Avenue, Buffalo, NY

OFFICE USE ONLY

Job #: C033-24

Page 8 **of** 10

Date Logged In: 2/2/24

Logged In By: [illegible]

p2 of 6

	Client ID	Lab ID	Sampling Location	Color	Material Size	Type of Material
1	4C	6341	Plastic Division @ Furnace	Blue		Spray on Coating
2	5A	342	Floor @ Furnace	Black		Caulk
3	5B	343	Floor Furnace	Black		Caulk
4	6A	344	Garage Bay Door - Interior	Gray		Caulk
5	6B	345	Garage Bay Door Interior	Gray		Caulk
6	7A	346	Furnace - Interior	White		Insulation
7	7B	347	" "	White		Insulation
8	7C	348	" "	White		Insulation
9	8A	349	Floor @ Door Stop	White		Caulk
10	8B	350	" " "	White		Caulk

Sampled By: Tim Strzelec — **Date:** 1/31 - 2/1/24

Transported to Paradigm By: [signature] — **Date:** 2/2

Received By: [signature] — **Date:** 2.2.24 950

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All samples will be analyzed by the appropriate New York State Department of Health methods (198.1,198.4 and 198.6) unless EPA 600/M4/82/020 per 40 CFR 763 and/or EPA 600/R-93/116 methods are requested.

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS or provide TEM contact name: [X]

TOTAL NUMBER OF SAMPLES ON ALL CHAINS OF CUSTODY: [ ]

CHAIN OF CUSTODY FOR BULK ASBESTOS ANALYSIS

RAVI RATES

3 of 6

PARADIGM

[X] 179 Lake Avenue, Rochester, New York 14608 — Office: 585-647-2530
[ ] 1430 B Millersport Highway, Williamsville, NY 14221 — Office: 716-775-5777

Client: Ravi Engineering & Land Surveying, P.C.	**Contact:** Benjamin Reddy	**OFFICE USE ONLY**
Phone Number: 585-697-2083	**Email Address for Data:** breddy@ravieng.com bfreeman@ravieng.com	**Job #:** 6733-24
Client Mailing Address:	**Results To:** Benjamin Reddy, Briana Freeman	**Turn Around Time:** 1 [ ] 2 [ ] 3 [ ] 5 [X] 2-9 Other [ ]	**Page** 9 **of** 12
2110 South Clinton Avenue, Suite 1	**Date Sampled:**	**Material Type/Quantity:** Friable [ ] NOB [ ] TEM [ ]	**Date Logged In:** 2/2/24
Rochester, New York 14618	**Project Location:**		**Logged In By:** TM
			p3of6

	Client ID	Lab ID	Sampling Location	Color	Material Size	Type of Material
1	9A	6351	BATHROOM - LOCKERS	GRAY		GROUT
2	9B	352	BATHROOM - LOCKERS	GRAY		GROUT
3	10A	353	" "	BROWN		QUARRY TILE
4	10B	354	" "	BROWN		QUARRY TILE
5	11A	355	" "	LIGHT GRAY		THIN SET
6	11B	356	" "	LIGHT GRAY		THIN SET
7	12A	357	BATHROOM WINDOWS - EXTERIOR	GRAY		CAULK
8	12B	358	BATHROOM WINDOWS EXTERIOR	GRAY		CAULK
9	13A	359	EXTERIOR - EXPANSION JOINT - NE	GRAY		CAULK
10	13B	360	EXTERIOR EXPANSION JOINT - EAST	GRAY		CAULK

Sampled By: Tim Szczerbacki **Date:** 1/31/24 - 2/1/24

Transported to Paradigm By: [signature] **Date:** 2/2

Received By: [signature] **Date:** 2.2.24 950

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CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS [X]

or provide TEM contact name:

TOTAL NUMBER OF SAMPLES ON ALL CHAINS OF CUSTODY: [ ]

CHAIN OF CUSTODY FOR BULK ASBESTOS ANALYSIS

RAVI RATES

4 of 6

PARADIGM

[X] 179 Lake Avenue, Rochester, New York 14608 — Office: 585-647-2530
[ ] 1430 B Millersport Highway, Williamsville, NY 14221 — Office: 716-775-5777

Client: Ravi Engineering & Land Surveying, P.C.	**Contact:** Benjamin Reddy	**OFFICE USE ONLY**
Phone Number: 585-697-2083	**Email Address for Data:** breddy@ravieng.com bfreeman@ravieng.com	**Job #:** 0733-24
Client Mailing Address:	**Results To:** Benjamin Reddy, Briana Freeman	**Turn Around Time:** 1 [ ] 2 [ ] 3 [ ] 5 [X] 2-4 Other [ ]	**Page** 10 **of** 125
2110 South Clinton Avenue, Suite 1	**Date Sampled:** 1/31-2/1/24	**Material Type/Quantity:** Friable [X] NOB [X] TEM [X]	**Date Logged In:** 2/2/24
Rochester, New York 14618	**Project Location:** 631 Northland Ave., Buffalo, NY		**Logged In By:** m p476

	Client ID	Lab ID	Sampling Location	Color	Material Size	Type of Material
1	14A	6361	EXPANSION JOINT - EXT. - NE	BLACK		JOINT FILLER
2	14B	362	EXPANSION JOINT - EXT. - NE	BLACK		JOINT FILLER
3	15A	363	KILN - @ SOUTH END	WHITE		W FIRE BRICK
4	15B	364	KILN - @ SOUTH END	WHITE		FIRE BRICK
5	16A	365	FLOOR - SOUTH END @ RR TRACKS	BLACK		CAULK
6	16B	366	" " " " "	BLACK		CAULK
7	17A	367	INTERIOR WINDOWS - FRAMES - NE	DARK GRAY		CAULK
8	17B	368	INTERIOR WINDOW FRAMES - SE	DARK GRAY		CAULK
9	18A	369	EAST CATWALK - JUNCTION BOX	BLACK		WIRE INSULATION
10	18B	370	EAST CATWALK JUNCTION BOX	BLACK		WIRE INSULATION

Sampled By: Tim Spitzer	**Date:** 1/31/24-2/1/24
Transported to Paradigm By:	**Date:** 2/2
Received By:	**Date:** 2.2.24 950

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All samples will be analyzed by the appropriate New York State Department of Health methods (198.1,198.4 and 198.6) unless EPA 600/M4/82/020 per 40 CFR 763 and/or EPA 600/R-93/116 methods are requested.

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS or provide TEM contact name:	X
TOTAL NUMBER OF SAMPLES ON ALL CHAINS OF CUSTODY:	

CHAIN OF CUSTODY FOR BULK ASBESTOS ANALYSIS

RAVI RATES

5 of 6

PARADIGM

[X] 179 Lake Avenue, Rochester, New York 14608 — Office: 585-647-2530
[ ] 1430 B Millersport Highway, Williamsville, NY 14221 — Office: 716-775-5777

Client: Ravi Engineering & Land Surveying, P.C.	**Contact:** Benjamin Reddy
Phone Number: 585-697-2083	**Email Address for Data:** breddy@ravieng.com bfreeman@ravieng.com
Client Mailing Address: 2110 South Clinton Avenue, Suite 1, Rochester, New York 14618	**Results To:** Benjamin Reddy, Briana Freeman
	Turn Around Time: 1 [ ] 2 [ ] 3 [ ] 5 [X] 2.5 Other [ ]
	Date Sampled: 1/31 - 2/1/24
	Material Type/Quantity: Friable [ ] NOB [ ] TEM [ ]
	Project Location: 631 Northampton Ave. Buffalo NY

OFFICE USE ONLY

Job #: 0733-24

Page 11 **of** 125

Date Logged In: 2/2/24

Logged In By: [illegible]

p5of6

	Client ID	Lab ID	Sampling Location	Color	Material Size	Type of Material
1	19A	6371	FURNACE - INTERIOR - WESTERLY	TAN		FIRE BRICK
2	19B	372	FURNACE - INTERIOR - WESTERLY	TAN		FIRE BRICK
3	20A	373	FURNACE - INTERIOR - WEST	LIGHT BROWN		COATING
4	20B	374	FURNACE - INTERIOR	LIGHT BROWN		~~G~~(S) COATING
5	21A	375	EXTERIOR - GARAGE BAY DOOR	WHITE		CAULK
6	21B	376	EXTERIOR GARAGE BAY DOOR	WHITE		CAULK
7	22A	377	EXT. SW - EXHAUST	WHITE		CAULK
8	22B	378	EXTERIOR SW - EXHAUST	WHITE		CAULK
9	23A	379	WEST SIDE - DUST COLLECTOR	BLACK		FABRIC SLEEVE
10	23B	380	WEST SIDE DUST COLLECTOR	BLACK		FABRIC SLEEVE

Sampled By: [signature] **Date:** 1/31 - 2/1/24

Transported to Paradigm By: [signature] **Date:** 2/2

Received By: [signature] **Date:** 2.2.24 950

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All samples will be analyzed by the appropriate New York State Department of Health methods (198.1,198.4 and 198.6) unless EPA 600/M4/82/020 per 40 CFR 763 and/or EPA 600/R-93/116 methods are requested.

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS [X]

or provide TEM contact name:

TOTAL NUMBER OF SAMPLES ON ALL CHAINS OF CUSTODY: [ ]

CHAIN OF CUSTODY FOR BULK ASBESTOS ANALYSIS

RAVI RATES

6 of 6

PARADIGM

[X] 179 Lake Avenue, Rochester, New York 14608 — Office: 585-647-2530
[ ] 1430 B Millersport Highway, Williamsville, NY 14221 — Office: 716-775-5777

Client: Ravi Engineering & Land Surveying, P.C.	**Contact:** Benjamin Reddy	**OFFICE USE ONLY**
Phone Number: 585-697-2083	**Email Address for Data:** breddy@ravieng.com bfreeman@ravieng.com	**Job #:** C733-24
Client Mailing Address:	**Results To:** Benjamin Reddy, Briana Freeman	**Turn Around Time:** 1 [ ] 2 [ ] 3 [ ] 5 [X] 2-9 Other [ ]	**Page** 12 **of** 129
2110 South Clinton Avenue, Suite 1	**Date Sampled:** 1/31 – 2/1/24	**Material Type/Quantity:** Friable [X] NOB [X] TEM [X]	**Date Logged In:** 2/2/24
Rochester, New York 14618	**Project Location:**		**Logged In By:** pb/b

	Client ID	Lab ID	Sampling Location	Color	Material Size	Type of Material
1	24A	6381	EXTERIOR BAY DOOR @ EXTERIOR FURNACE	WHITE		CAULK
2	24B	382	EXTERIOR BAY DOOR @ EXTERIOR FURNACE	WHITE		CAULK
3						
4						
5						
6						
7						
8						
9						
10						

Sampled By: Tim Strzodka — **Date:** 1/31 – 2/1/24	All samples will be analyzed by the appropriate New York State Department of Health methods (198.1,198.4 and 198.6) unless EPA 600/M4/82/020 per 40 CFR 763 and/or EPA 600/R-93/116 methods are requested.
Transported to Paradigm By: — **Date:** 2/2	**CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS or provide TEM contact name:** X
Received By: — **Date:** 2.2.24 950	**TOTAL NUMBER OF SAMPLES ON ALL CHAINS OF CUSTODY:**

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ATTACHMENT F

Previous Report – Fisher Associates Laboratory Data, dated 2015

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

Please Reply To:

AMERI SCI

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

FACSIMILE TELECOPY TRANSMISSION

To: Mark Stein
Fisher Associates
Fax #:
Email: MStein@FisherAssoc.com

From: Donna M. Blackwell
AmeriSci Job #: 115071148
Subject: ELAP-PLM/TEM 5 day Results
Client Project: 154034; 631 Northland; 631 Northland Ave, NY

Date: Monday, July 06, 2015
Time: 19:50:15
Comments:

Number of Pages: 14
(including cover sheet)

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Table I
Summary of Bulk Asbestos Analysis Results
154034; 631 Northland; 631 Northland Ave, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	1-A	1	0.264	7.9	86.0	5.9	Chrysotile <0.25	Chrysotile Trace
Location:	Exterior Window; White Window Glaze							
02	1-B	1	0.160	8.2	87.6	4.1	Chrysotile <0.25	Chrysotile Trace
Location:	Exterior Window; White Window Glaze							
03	2-A	2	0.162	15.9	79.4	4.7	NAD	Chrysotile Trace
Location:	Exterior West Side; White Expansion Joint Caulk							
04	2-B	2	0.197	16.1	80.4	3.4	NAD	NAD
Location:	Exterior West Side; White Expansion Joint Caulk							
05	3-A	3	0.250	39.5	56.1	4.3	NAD	Chrysotile Trace
Location:	West Side Bay Garage Door; Bay Door Caulk Grey							
06	3-B	3	0.199	39.7	55.1	5.0	Chrysotile <1	Chrysotile Trace
Location:	West Side Bay Garage Door; Bay Door Caulk Grey "Total Asbestos Concentration For Multiple Asbestos Types Present Is Less Than							Actinolite Trace
07	4-A	4	----	----	----	----	Chrysotile 2.0	NA
Location:	Exterior Furnace; Hard Insulation White							
08	4-B	4	----	----	----	----	NA/PS	NA
Location:	Exterior Furnace; Hard Insulation White							
09	5-A	5	----	----	----	----	NAD	NA
Location:	Exterior Furnace; Fluffy Insulation White							
10	5-B	5	----	----	----	----	NAD	NA
Location:	Exterior Furnace; Fluffy Insulation White							
11	6-A		----	----	----	----	Chrysotile 17.6	NA
Location:	Interior Ceiling Mount; White Steam Pipe Insulation						Amosite 5.9	
12	7-A	6	0.154	10.2	82.9	6.7	Chrysotile <1	Chrysotile Trace
Location:	Interior Window; Grey Window Glaze "Total Asbestos Concentration For Multiple Asbestos Types Present Is Less Than 1%"							Anthophyllite Trace
13	7-B	6	0.291	10.7	82.0	7.1	Tremolite <0.25	Chrysotile Trace
Location:	Interior Window; Grey Window Glaze "Total Asbestos Concentration For Multiple Asbestos Types Present Is Less Than 1%"						Chrysotile <0.25	Anthophyllite Trace
14	8-A	7	0.128	68.7	2.7	28.5	NAD	NAD
Location:	Roof; Top Layer Ballast Tar							
15	8-B	7	0.093	88.0	3.0	9.0	NAD	NAD
Location:	Roof; Top Layer Ballast Tar							
16	9-A	8	0.140	93.8	2.1	4.1	NAD	NAD
Location:	Roof; Tar Paper Top Layer							

See Reporting notes on last page

Table I
Summary of Bulk Asbestos Analysis Results
154034; 631 Northland; 631 Northland Ave, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	9-B	8	0.134	90.2	2.2	7.6	NAD	NAD
Location: Roof; Tar Paper Top Layer								
18	10-A	9	0.090	93.9	2.6	3.6	NAD	NAD
Location: Roof; Black Tar Paper Lower Layer								
19	10-B	9	0.153	66.3	2.4	31.3	NAD	NAD
Location: Roof; Black Tar Paper Lower Layer								
20	11-A	10	0.196	52.0	2.8	45.0	NAD	Chrysotile Trace
Location: Roof; Black Bottom Layer Tar								
21	11-B	10	0.157	61.8	2.5	35.7	NAD	NAD
Location: Roof; Black Bottom Layer Tar								
22	12-A	11	0.068	98.4	1.5	0.1	NAD	NAD
Location: Roof; Brown "Cork Like" Insulation								
23	12-B	11	0.074	97.3	2.6	0.1	NAD	NAD
Location: Roof; Brown "Cork Like" Insulation								
24	13-A	12	0.223	74.8	4.1	18.8	Chrysotile 2.3	NA
Location: Roof; Black Flashing Cement On Doors & Equipment								
25	13-B	12	0.259	70.4	4.7	24.8	NA/PS	NA
Location: Roof; Black Flashing Cement On Doors & Equipment								
26	14-A	13	0.348	52.4	20.4	27.3	NAD	NAD
Location: Roof; Grey Door Caulk								
27	14-B	13	0.301	45.2	20.1	34.7	NAD	NAD
Location: Roof; Grey Door Caulk								
28	15-A		----	----	----	----	Chrysotile 36.4	NA
Location: Interior Floor Near Furnace; White Rope/Gasket								
29	16-A	14	----	----	----	----	NAD	NA
Location: Main Floor Bathroom; Brown Quarry Tile								
30	16-B	14	----	----	----	----	NAD	NA
Location: Main Floor Bathroom; Brown Quarry Tile								
31	17-A	15	----	----	----	----	NAD	NA
Location: Main Floor Bathroom; Grey Grout								
32	17-B	15	----	----	----	----	NAD	NA
Location: Main Floor Bathroom; Grey Grout								

See Reporting notes on last page

Table I
Summary of Bulk Asbestos Analysis Results
154034; 631 Northland; 631 Northland Ave, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
33	18-A	16	----	----	----	----	NAD	NA
Location:	Main Floor Bathroom; Grey Set							
34	18-B	16	----	----	----	----	NAD	NA
Location:	Main Floor Bathroom; Grey Set							

Reviewed by: _____ Date Reviewed: _____ Analyzed By: Beverly A. Schrage Date Analyzed: 7/7/2015

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%;
PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984);
TEM analysis by EPA 600/R-93/116 (not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984);

** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Fisher Associates
Attn: Mark Stein
135 Calkins Road, Suite A

Rochester, NY 14623

Date Received 07/02/15 **AmeriSci Job #** 115071148
Date Examined 07/06/15 **P.O. #**
ELAP # 10984 **Page** 1 **of** 8
RE: 154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
1-A	115071148-01	*Yes*	Trace (<0.25 % pc)
1	**Location:** Exterior Window; White Window Glaze		(EPA 400 PC) by Donna M. Blackwell on 07/06/15
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <0.25 % pc **Other Material:** Non-fibrous 5.9 % **Comment:** Heat Sensitive (organic): 7.9%; Acid Soluble (inorganic): 86.0%; Inert (Non-asbestos): 5.9%			
1-B	115071148-02	*Yes*	Trace (<0.25 % pc)
1	**Location:** Exterior Window; White Window Glaze		(EPA 400 PC) by Donna M. Blackwell on 07/06/15
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <0.25 % pc **Other Material:** Non-fibrous 4.1 % **Comment:** Heat Sensitive (organic): 8.2%; Acid Soluble (inorganic): 87.6%; Inert (Non-asbestos): 4.1%			
2-A	115071148-03	*No*	NAD
2	**Location:** Exterior West Side; White Expansion Joint Caulk		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 4.8 % **Comment:** Heat Sensitive (organic): 15.9%; Acid Soluble (inorganic): 79.4%; Inert (Non-asbestos): 4.8%			
2-B	115071148-04	*No*	NAD
2	**Location:** Exterior West Side; White Expansion Joint Caulk		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 3.4 % **Comment:** Heat Sensitive (organic): 16.1%; Acid Soluble (inorganic): 80.4%; Inert (Non-asbestos): 3.4%			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
3-A	115071148-05	***No***	NAD
3	**Location:** West Side Bay Garage Door; Bay Door Caulk Grey		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 4.4 %			
Comment: Heat Sensitive (organic): 39.5%; Acid Soluble (inorganic): 56.1%; Inert (Non-asbestos): 4.4%			
3-B	115071148-06	***Yes***	Trace (<1 %)
3	**Location:** West Side Bay Garage Door; Bay Door Caulk Grey		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile <1 % pc			
Other Material: Non-fibrous 4.9 %			
Comment: Heat Sensitive (organic): 39.7%; Acid Soluble (inorganic): 55.1%; Inert (Non-asbestos): 4.9%			
4-A	115071148-07	***Yes***	2 %
4	**Location:** Exterior Furnace; Hard Insulation White		(by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Off White, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.0 %			
Other Material: Non-fibrous 98 %			
4-B	115071148-08		NA/PS
4	**Location:** Exterior Furnace; Hard Insulation White		
Analyst Description: Bulk Material			
Asbestos Types:			
Other Material:			
5-A	115071148-09	***No***	NAD
5	**Location:** Exterior Furnace; Fluffy Insulation White		(by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Off White, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Fibrous glass 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
5-B 5	115071148-10 **Location:** Exterior Furnace; Fluffy Insulation White	***No***	NAD (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Off White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 100 %			
6-A	115071148-11 **Location:** Interior Ceiling Mount; White Steam Pipe Insulation	***Yes***	23.5 % (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** Chrysotile 17.6 %, Amosite 5.9 % **Other Material:** Cellulose 20 %, Non-fibrous 56.5 %			
7-A 6	115071148-12 **Location:** Interior Window; Grey Window Glaze	***Yes***	Trace (<1 %) (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <1 % pc **Other Material:** Non-fibrous 6.6 % **Comment:** Heat Sensitive (organic): 10.2%; Acid Soluble (inorganic): 82.9%; Inert (Non-asbestos): 6.6%			
7-B 6	115071148-13 **Location:** Interior Window; Grey Window Glaze	***Yes***	Trace (<0.25 % pc) (EPA 400 PC) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Tremolite <0.25 % pc, Chrysotile <0.25 % pc **Other Material:** Non-fibrous 7.2 % **Comment:** Heat Sensitive (organic): 10.7%; Acid Soluble (inorganic): 82.0%; Inert (Non-asbestos): 7.2%			
8-A 7	115071148-14 **Location:** Roof; Top Layer Ballast Tar	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 28.5 % **Comment:** Heat Sensitive (organic): 68.7%; Acid Soluble (inorganic): 2.7%; Inert (Non-asbestos): 28.5%			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
8-B 7	115071148-15 **Location:** Roof; Top Layer Ballast Tar	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 9 % **Comment:** Heat Sensitive (organic): 88.0%; Acid Soluble (inorganic): 3.0%; Inert (Non-asbestos): 9.0%			
9-A 8	115071148-16 **Location:** Roof; Tar Paper Top Layer	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 4.1 % **Comment:** Heat Sensitive (organic): 93.8%; Acid Soluble (inorganic): 2.1%; Inert (Non-asbestos): 4.1%			
9-B 8	115071148-17 **Location:** Roof; Tar Paper Top Layer	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 7.6 % **Comment:** Heat Sensitive (organic): 90.2%; Acid Soluble (inorganic): 2.2%; Inert (Non-asbestos): 7.6%			
10-A 9	115071148-18 **Location:** Roof; Black Tar Paper Lower Layer	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 3.6 % **Comment:** Heat Sensitive (organic): 93.9%; Acid Soluble (inorganic): 2.6%; Inert (Non-asbestos): 3.6%			
10-B 9	115071148-19 **Location:** Roof; Black Tar Paper Lower Layer	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 31.3 % **Comment:** Heat Sensitive (organic): 66.3%; Acid Soluble (inorganic): 2.4%; Inert (Non-asbestos): 31.3%			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
11-A	115071148-20	***No***	NAD
10	**Location:** Roof; Black Bottom Layer Tar		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 45.1 %			
Comment: Heat Sensitive (organic): 52.0%; Acid Soluble (inorganic): 2.8%; Inert (Non-asbestos): 45.1%			
11-B	115071148-21	***No***	NAD
10	**Location:** Roof; Black Bottom Layer Tar		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 35.7 %			
Comment: Heat Sensitive (organic): 61.8%; Acid Soluble (inorganic): 2.5%; Inert (Non-asbestos): 35.7%			
12-A	115071148-22	***No***	NAD
11	**Location:** Roof; Brown "Cork Like" Insulation		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 0.1 %			
Comment: Heat Sensitive (organic): 98.4%; Acid Soluble (inorganic): 1.5%; Inert (Non-asbestos): 0.1%			
12-B	115071148-23	***No***	NAD
11	**Location:** Roof; Brown "Cork Like" Insulation		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 0.1 %			
Comment: Heat Sensitive (organic): 97.3%; Acid Soluble (inorganic): 2.6%; Inert (Non-asbestos): 0.1%			
13-A	115071148-24	***Yes***	2.3 %
12	**Location:** Roof; Black Flashing Cement On Doors & Equipment		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.3 %			
Other Material: Non-fibrous 18.8 %			
Comment: Heat Sensitive (organic): 74.8%; Acid Soluble (inorganic): 4.1%; Inert (Non-asbestos): 18.8%			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
13-B	115071148-25		NA/PS
12	**Location:** Roof; Black Flashing Cement On Doors & Equipment		
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:** **Comment:** Heat Sensitive (organic): 70.4%; Acid Soluble (inorganic): 4.7%; Inert (Non-asbestos): 24.8%			
14-A	115071148-26	***No***	NAD
13	**Location:** Roof; Grey Door Caulk		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 27.3 % **Comment:** Heat Sensitive (organic): 52.4%; Acid Soluble (inorganic): 20.4%; Inert (Non-asbestos): 27.3%			
14-B	115071148-27	***No***	NAD
13	**Location:** Roof; Grey Door Caulk		(by NYS ELAP 198.6) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 34.7 % **Comment:** Heat Sensitive (organic): 45.2%; Acid Soluble (inorganic): 20.1%; Inert (Non-asbestos): 34.7%			
15-A	115071148-28	***Yes***	36.4 %
	Location: Interior Floor Near Furnace; White Rope/Gasket		(by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 36.4 % **Other Material:** Non-fibrous 63.6 %			
16-A	115071148-29	***No***	NAD
14	**Location:** Main Floor Bathroom; Brown Quarry Tile		(by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
16-B 14	115071148-30 **Location:** Main Floor Bathroom; Brown Quarry Tile	***No***	NAD (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
17-A 15	115071148-31 **Location:** Main Floor Bathroom; Grey Grout	***No***	NAD (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
17-B 15	115071148-32 **Location:** Main Floor Bathroom; Grey Grout	***No***	NAD (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18-A 16	115071148-33 **Location:** Main Floor Bathroom; Grey Set	***No***	NAD (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18-B 16	115071148-34 **Location:** Main Floor Bathroom; Grey Set	***No***	NAD (by NYS ELAP 198.1) by Donna M. Blackwell on 07/06/15
Analyst Description: Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

154034; 631 Northland; 631 Northland Ave, NY

Reporting Notes:

Analyzed by: Donna M. Blackwell Donna M Blackwell Date 7/6/15

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By:_____

115071148

Relinquished By: _____ Date/Time: 6/28/15

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

AMERISCI
WWW.AMERISCI.COM

BULK CHAIN OF CUSTODY

AMERISCI RICHMOND
13635 GENITO ROAD
MIDLOTHIAN, VA 23112
TOLL FREE: (800) 476-5227
PHONE: (804) 763-1200
FAX: (804) 763-1800

Company: Fisher Associates

Street Address: 135 Calkins Road

City: Rochester State: NY Zip: 14623

Phone: 585-334-1310 Fax: 585-334-1361

Cell: 585-353-4731 Fax:

E-mail mstein@fisherassoc.com Verbal Results: Y / N

Results to: Mark Stein

Project: 631 NORTHLAND AMERISCI #:

Proj Mgr: MARK STEIN Proj #: 154034

Proj Address: 631 NORTHLAND Proj State: NY

Analysis: __PLM; __ Positive Stop; __TEM; X NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust __ (Microvac) __ (Wipe); __ Qualitative; __ Other (describe in comments)

Turnaround Time: 5-DAY Material Type: X Bulk __ Dust __ Water

Sampled By: MTS Date Sampled: 6/24/15

Special Instructions or Comments:

STOP POSITIVE

Lab ID	Field ID	Location	Sample Description (dust area)	Homogenous Area
	1-A	EXTERIOR WINDOW	WHITE WINDOW GLAZE	
	1-B	" "	" "	
	2-A	EXTERIOR WEST SIDE	WHITE EXPANSION JOINT CAULK	
	2-B	" "	" " "	
	3-A	WEST SIDE BAY GARAGE DOOR	BAY DOOR CAULK GREY	
	3-B	" " " "	" "	
	4-A	EXTERIOR FURNACE	HARD INSULATION WHITE	
	4-B	" " "	" " "	
	5-A	EXTERIOR FURNACE	FLUFFY INSULATION WHITE	
	5-B	" " "	" " "	
	6-A	INTERIOR CIELING MOUNT	WHITE STEAM PIPE INSULATION	
	7-A	INTERIOR WINDOW	GREY WINDOW GLAZE	
	7-B	" "	" " "	
	8-A	ROOF	TOP LAYER BALLAST TAR	
	8-B	↓	" " " "	
	9-A		TARPAPER TOP LAYER	
	9-B	ROOF	" " " "	

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JUL 02 2015
By

1150711148

Relinquished By: _____ Date/Time: 6/28/15

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

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BULK CHAIN OF CUSTODY

AMERISCI RICHMOND
13635 GENITO ROAD
MIDLOTHIAN, VA 23112
TOLL FREE: (800) 476-5227
PHONE: (804) 763-1200
FAX: (804) 763-1800

Company: Fisher Associates

Street Address: 135 Calkins Road

City: Rochester State: NY Zip: 14623

Phone: 585-334-1310 Fax: 585-334-1361

Cell: 585-353-4731 Fax:

E-mail mstein@fisherassoc.com Verbal Results: Y / N

Results to: Mark Stein

Project: 631 NORTHLAND AMERISCI #:

Proj Mgr: MARK STEIN Proj #: 154034

Proj Address: 631 NORTHLAND Proj State: NY

Analysis: __PLM; __ Positive Stop; __TEM; X NY ELAP PLM/TEM w/ NOB Prep.

ASTM Dust __ (Microvac) __ (Wipe); __ Qualitative; __ Other (describe in comments)

Turnaround Time: 5-DAY Material Type: X Bulk __ Dust __ Water

Sampled By: MTS Date Sampled: 6/24/15

Special Instructions or Comments:

STOP POSITIVE

Lab ID	Field ID	Location	Sample Description (dust area)	Homogenous Area
	10-A	ROOF	BLACK TAR PAPER LOWER LAYER	
	10-B		" " "	
	11-A		BLACK BOTTOM LAYER TAR	
	11-B		" " " "	
	12-A		BROWN "CORK LIKE" INSULATION	
	12-B		" " " "	
	13-A		BLACK FLASHING CEMENT ON	
	13-B		DOORS & EQUIPMENT	
	14-A		GREY DOOR CAULK	
	14-B	ROOF	" " "	
	15-A	INTERIOR FLOOR NEAR FURNACE	WHITE ROPE / GASKET	
	16-A	~~BASEMENT~~ MAINFLOOR BATHROOM	BROWN QUARRY TILE	
	16-B		" " "	
	17-A		GREY GROUT	
	17-B		" "	
	18-A		GREY SET	
	18-B	MAIN FLOOR BATHROOM	" "	

RECEIVED JUL 02 2015 BY

ATTACHMENT G

Licenses and certifications

LIMITED PRE-RENOVATION ASBESTOS SURVEY/INSPECTION

631 Northland Avenue
Buffalo, New York 14211

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Ravi Engineering and Land Surveying, P.C.
2110 South Clinton Ave., Suite 1, Rochester, NY, 14618

License Number: 29384
License Class: RESTRICTED
Date of Issue: 02/03/2023
Expiration Date: 02/29/2024
Duly Authorized Representative: Nagappa Ravindra

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2024
Issued April 01, 2023

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. STEVE DEVITO
PARADIGM ENVIRONMENTAL SERVICES INC
179 LAKE AVENUE
ROCHESTER, NY 14608

NY Lab Id No: 10958

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Lead in Dust Wipes	EPA 6010C
Lead in Paint	EPA 6010C

Sample Preparation Methods

	EPA 3050B

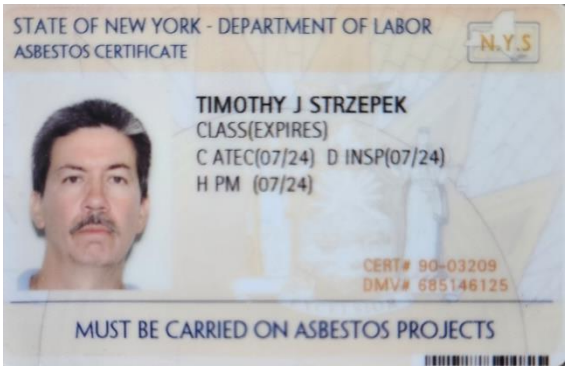
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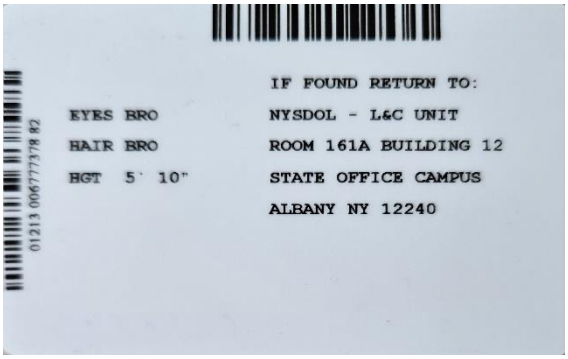
Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

RAVI ENGINEERING
& LAND SURVEYING, P.C.

2110 Clinton Avenue South, Suite 1

Rochester, New York 14618





Timothy J. Strzepek

D INSP – Inspector

H PM – Project Monitor

C ATEC – Air Monitor

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S



BRIANA R FREEMAN
CLASS(EXPIRES)
D INSP (04/24)

CERT# 23-61NZ7-SHAB
DMV# 441438049

MUST BE CARRIED ON ASBESTOS PROJECTS

LIMITED PCB MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

Volume 2 of 3

Prepared For:

Wendel
375 Essjay Road, Suite 200
Williamsville, New York 14221

Prepared By:

Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Avenue, Suite 1
Rochester, New York 14618

February 2024

Project No. 43-24-029

DRAFT

LIMITED PCB MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

Volume 2 of 3

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EXECUTIVE SUMMARY

Ravi Engineering & Land Surveying, P.C. (RE&LS) was retained by Wendel to conduct a Limited Polychlorinated Biphenyl (PCB) Material Survey at 631 Northland Avenue, Buffalo, New York 14211. The Survey was conducted from January 31 through February 1, 2024.

The Survey included a visual assessment and collection of suspect caulks and other materials that would be impacted by the proposed renovation project. Materials were sampled for PCB content to determine if special removal or disposal procedures are required.

The caulks that were sampled and analyzed for asbestos content (identified in Volume 1 of this report) were also sampled and analyzed for PCBs. Fifteen (15) material samples were collected and submitted to Paradigm Environmental Services, Inc. for PCB analysis. Two (2) out of fifteen (15) samples were determined to be PCB-containing.

1.0 INTRODUCTION

Ravi Engineering & Land Surveying, P.C. (RE&LS) was retained by Wendel to conduct a Limited Polychlorinated Biphenyl (PCB) Material Survey at 631 Northland Avenue, Buffalo, New York 14211. The Survey was conducted from January 31 through February 1, 2024.

2.0 PROJECT OVERVIEW

The Survey was conducted to support the renovation project of 631 Northland Avenue, Buffalo, New York. The scope of work was based on electronic correspondence between RE&LS and Wendel from July 2023 with follow-up correspondence in December 2023. Drawings of the building design from 1953 were provided by Wendel and included a ground floor and roof plan. As well as, detailed designs of the toilet room, furnace room, plumbing and the heating and ventilation systems. The Survey included the entire structure with exception of the roof.

3.0 PCB SAMPLING/FINDINGS

Fifteen (15) material samples were collected and submitted to Paradigm Environmental Services, Inc. (Paradigm) for PCB analysis. A copy of Paradigm's Certification is included in Attachment D. Bulk sample locations are included in Attachment A. Table 1 identifies the materials that were sampled and analyzed for PCBs along with the sample number, material description, location, and PCB content.

Table 1 – PCB MATERIAL SAMPLING RESULTS

Sample Number	Material Description and Location	PCB Content (ppm)
Wood Floor-1	Wood block floor- southeast corner	BDL
Wood Floor- 2	Wood block floor- northwest corner	BDL
Wood Floor- 3	Wood block floor- northwest corner	BDL
1P	White glazing- exterior window	BDL
2P	Black floor coating- wood blocks	BDL
5P	Black caulk- around floor	BDL
6P	Gray caulk- interior bay door	BDL
8P	White caulk- under door threshold	**PCB-1254- 4.07**
12P	Gray caulk- interior toilet room window	BDL
13P	Gray expansion joint caulk- exterior	BDL
16P	Black caulk- railroad track	BDL
17P	Dark gray caulk- interior window	**PCB-1254- 5.63** **PCB-1260- 19.2**
21P	White caulk- exterior bay door	BDL
22P	White caulk- around exterior exhaust	BDL
24P	White caulk- exterior bay door behind furnace	BDL

Note: The above identified caulks were also analyzed for asbestos content as identified in Volume 1 of this report.
ppm: Parts Per Million
BDL: Below Detection Limit
***Bold**: PCB-containing*

Two (2) of the fifteen (15) analyzed samples were found to be PCB-containing, but are below the regulatory threshold for PCB bulk-product waste (≥50 parts per million; ppm). The United States Environmental Protection Agency (USEPA) defines PCB bulk-product waste as "waste derived from

manufacturing products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was ≥50 ppm PCB."

4.0 LIMITATIONS OF INVESTIGATION

The Survey was based on the project scope as described in Section 2.0 Project Overview. Areas that were inaccessible were not sampled nor identified.

5.0 RECOMMENDATIONS

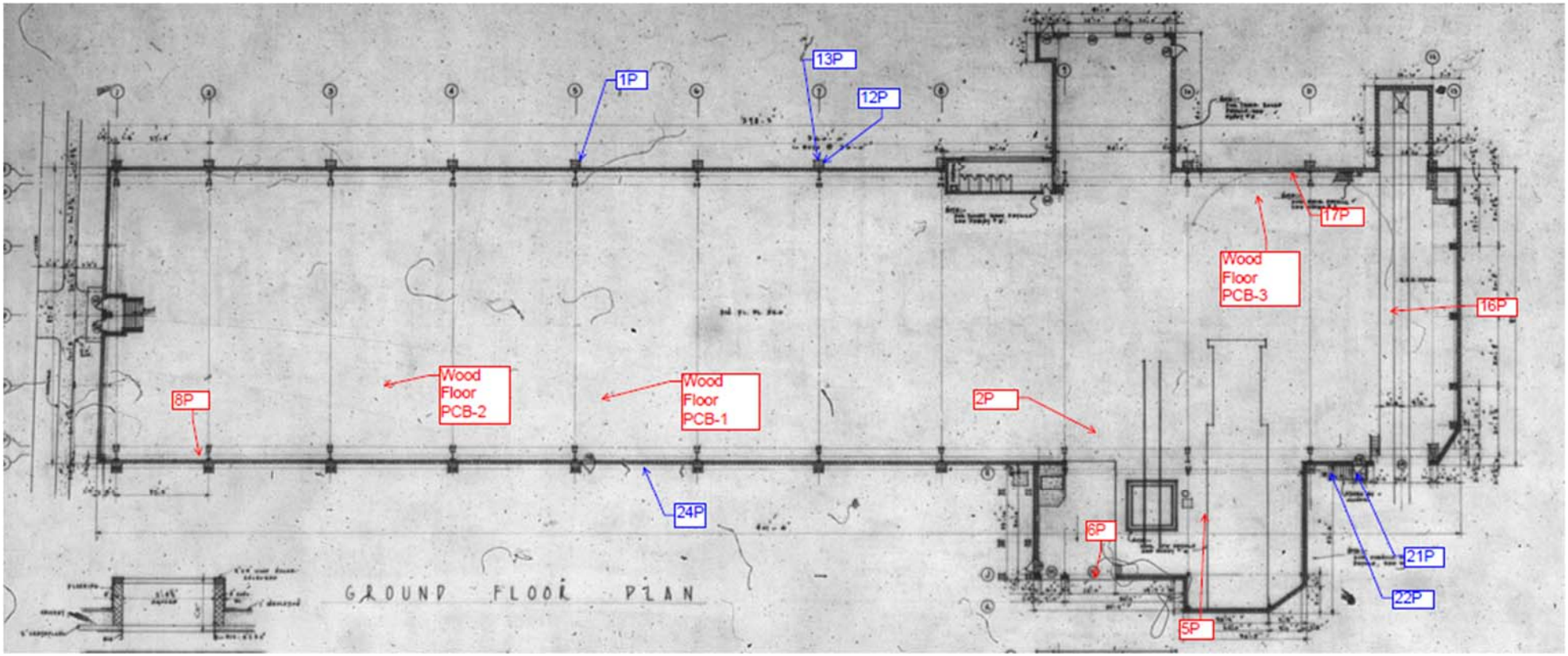
Two (2) of the fifteen (15) materials that were sampled and analyzed were determined to be PCB-containing, but are not above the USEPA threshold. Suspect caulks and other materials, not identified in this Survey report, discovered during renovation or renovation activities shall be assumed to be PCB-containing until laboratory analysis proves otherwise.

ATTACHMENT A

Areas of Inspection/Bulk Sample Location Plans

LIMITED PCB MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211



Legend:

Interior Sample Location

Exterior Sample Location

RAVI ENGINEERING & LAND SURVEYING, P.C.

2110 SOUTH CLINTON AVENUE, SUITE 1
ROCHESTER, NEW YORK 14618
TL: (585) 223-3660 FX: (585) 697-1764

631 NORTHLAND AVENUE
BUFFALO, NEW YORK 14211
LIMITED PCB MATERIALS SURVEY

PROJECT NUMBER: 43-24-029

DATE: FEBRUARY 2024

ATTACHMENT A
AREAS OF INSPECTION/BULK SAMPLE LOCATION PLAN

SCALE: N.T.S.

DRAWING NUMBER: DWG-3

ATTACHMENT B

Analytical Report and Chain of Custody Forms

LIMITED PCB MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

240495

Referencing

631 Northland Ave

Prepared

Monday, February 12, 2024

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below:

Reduced sample size used for PCB analysis due to limited sample volume. Kindly refer to Chain of Custody Supplement for the affected samples.

Emily Farmer

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Wood Floor PCB-1		
Lab Sample ID:	240495-01	**Date Sampled:**	2/1/2024
Matrix:	Solid	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1221	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1232	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1242	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1248	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1254	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1260	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1262	< 2.55	mg/Kg		2/6/2024 18:10
PCB-1268	< 2.55	mg/Kg		2/6/2024 18:10

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**52.2**	10 - 110		2/6/2024 18:10

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/5/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Wood Floor PCB-2		
Lab Sample ID:	240495-02	**Date Sampled:**	2/1/2024
Matrix:	Solid	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1221	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1232	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1242	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1248	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1254	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1260	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1262	< 3.01	mg/Kg		2/7/2024 20:08
PCB-1268	< 3.01	mg/Kg		2/7/2024 20:08

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**50.8**	10 - 110		2/7/2024 20:08

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/5/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Wood Floor PCB-3		
Lab Sample ID:	240495-03	**Date Sampled:**	2/1/2024
Matrix:	Solid	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1221	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1232	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1242	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1248	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1254	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1260	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1262	< 4.17	mg/Kg		2/6/2024 18:37
PCB-1268	< 4.17	mg/Kg		2/6/2024 18:37

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**46.8**	10 - 110		2/6/2024 18:37

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/5/2024

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PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	1P White Window Glazing		
Lab Sample ID:	240495-04	**Date Sampled:**	2/1/2024
Matrix:	Caulk	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1221	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1232	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1242	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1248	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1254	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1260	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1262	< 2.94	mg/Kg		2/6/2024 18:51
PCB-1268	< 2.94	mg/Kg		2/6/2024 18:51

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**75.5**	10 - 110		2/6/2024 18:51

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/5/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier: 2P Black Floor Coating
Lab Sample ID: 240495-05 **Date Sampled:** 2/1/2024
Matrix: Caulk **Date Received** 2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1221	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1232	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1242	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1248	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1254	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1260	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1262	< 4.42	mg/Kg		2/6/2024 19:05
PCB-1268	< 4.42	mg/Kg		2/6/2024 19:05

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**43.7**	10 - 110		2/6/2024 19:05

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 2/5/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier: 5P Black Floor Caulk
Lab Sample ID: 240495-06 **Date Sampled:** 2/1/2024
Matrix: Caulk **Date Received** 2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1221	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1232	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1242	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1248	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1254	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1260	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1262	< 3.97	mg/Kg		2/6/2024 19:18
PCB-1268	< 3.97	mg/Kg		2/6/2024 19:18

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**56.8**	10 - 110		2/6/2024 19:18

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 2/5/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier: 6P Gray Interior Door (Bay Door)
Lab Sample ID: 240495-07 **Date Sampled:** 2/1/2024
Matrix: Caulk **Date Received** 2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1221	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1232	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1242	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1248	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1254	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1260	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1262	< 4.13	mg/Kg		2/6/2024 19:32
PCB-1268	< 4.13	mg/Kg		2/6/2024 19:32

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**99.2**	10 - 110		2/6/2024 19:32

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 2/5/2024

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PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier: 8P White Door Stop Caulk
Lab Sample ID: 240495-08 **Date Sampled:** 2/1/2024
Matrix: Caulk **Date Received** 2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1221	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1232	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1242	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1248	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1254	**4.07**	mg/Kg		2/8/2024 17:27
PCB-1260	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1262	< 3.40	mg/Kg		2/8/2024 17:27
PCB-1268	< 3.40	mg/Kg		2/8/2024 17:27

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**64.8**	10 - 110		2/8/2024 17:27

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 2/6/2024

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	12P Gray Bath Window Caulk		
Lab Sample ID:	240495-09	**Date Sampled:**	2/1/2024
Matrix:	Caulk	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1221	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1232	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1242	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1248	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1254	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1260	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1262	< 20.8	mg/Kg		2/9/2024 18:07
PCB-1268	< 20.8	mg/Kg		2/9/2024 18:07

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	NC	10 - 110		2/9/2024 18:07

Reporting limit elevated due to sample matrix

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/6/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier: 13P Exterior Expansion Joint
Lab Sample ID: 240495-10 **Date Sampled:** 2/1/2024
Matrix: Caulk **Date Received** 2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1221	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1232	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1242	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1248	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1254	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1260	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1262	< 7.87	mg/Kg		2/9/2024 18:20
PCB-1268	< 7.87	mg/Kg		2/9/2024 18:20

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	NC	10 - 110		2/9/2024 18:20

Reporting limit elevated due to sample matrix

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 2/6/2024

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier: 16P Black Railroad Track
Lab Sample ID: 240495-11 **Date Sampled:** 2/1/2024
Matrix: Caulk **Date Received** 2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1221	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1232	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1242	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1248	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1254	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1260	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1262	< 4.17	mg/Kg		2/8/2024 18:36
PCB-1268	< 4.17	mg/Kg		2/8/2024 18:36

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**59.7**	10 - 110		2/8/2024 18:36

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 2/6/2024

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	17P Dark Gray Interior Window		
Lab Sample ID:	240495-12	**Date Sampled:**	2/1/2024
Matrix:	Caulk	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.20	mg/Kg		2/8/2024 18:59
PCB-1221	< 4.20	mg/Kg		2/8/2024 18:59
PCB-1232	< 4.20	mg/Kg		2/8/2024 18:59
PCB-1242	< 4.20	mg/Kg		2/8/2024 18:59
PCB-1248	< 4.20	mg/Kg		2/8/2024 18:59
PCB-1254	**5.63**	mg/Kg		2/8/2024 18:59
PCB-1260	**19.2**	mg/Kg		2/8/2024 18:59
PCB-1262	< 4.20	mg/Kg		2/8/2024 18:59
PCB-1268	< 4.20	mg/Kg		2/8/2024 18:59

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**76.0**	10 - 110		2/8/2024 18:59

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/6/2024

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	21P White Bay Door (Ext.)		
Lab Sample ID:	240495-13	**Date Sampled:**	2/1/2024
Matrix:	Caulk	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1221	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1232	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1242	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1248	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1254	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1260	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1262	< 6.29	mg/Kg		2/9/2024 18:34
PCB-1268	< 6.29	mg/Kg		2/9/2024 18:34

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	NC	10 - 110		2/9/2024 18:34

Reporting limit elevated due to sample matrix

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/6/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	22P White-Around Exhaust		
Lab Sample ID:	240495-14	**Date Sampled:**	2/1/2024
Matrix:	Caulk	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1221	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1232	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1242	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1248	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1254	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1260	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1262	< 4.39	mg/Kg		2/7/2024 23:20
PCB-1268	< 4.39	mg/Kg		2/7/2024 23:20

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**72.2**	10 - 110		2/7/2024 23:20

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/6/2024

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240495

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	24P White-Bay Door By Furnace		
Lab Sample ID:	240495-15	**Date Sampled:**	2/1/2024
Matrix:	Caulk	**Date Received**	2/2/2024

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1221	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1232	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1242	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1248	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1254	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1260	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1262	< 3.73	mg/Kg		2/7/2024 23:34
PCB-1268	< 3.73	mg/Kg		2/7/2024 23:34

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**75.4**	10 - 110		2/7/2024 23:34

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 2/6/2024

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Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

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NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"H" = Denotes a parameter analyzed outside of holding time.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

RAVI RATES

1 of 3

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:		INVOICE TO:		
CLIENT:	Ravi Engineering & Land Surveying, P.C.	CLIENT:	Same	LAB PROJECT ID: 240495
ADDRESS:	2110 South Clinton Avenue, Suite 1	ADDRESS:		Quotation #:
CITY:	Rochester STATE: NY ZIP 14618	CITY:	STATE: ZIP:	
PHONE:	585-697-2083	PHONE:		Email: tstrzepek@ravieng.com breddy@ravieng.com; bfreeman@ravieng.com
ATTN:	Benjamin Reddy, Briana Freeman	ATTN:		

PROJECT REFERENCE: 631 Northland Ave

Matrix Codes: AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Lead	PCB	REMARKS	PARADIGM LAB SAMPLE NUMBER
2/1			X	Wood Floor PCB-1	1	SD		X		01
2/1			X	Wood Floor PCB-2	1	SD		X		02
~~2/1~~ 2/1			X	Wood Floor PCB-3	1	SD		X		03
2/1			X	1P	1	CK		X	White Window Glazing	04
2/1			X	2P	1	CK		X	Black Floor Coating	05
2/1			X	5P	1	CK		X	Black Floor Caulk	06
2/1			X	6P	1	CK		X	Gray Interior door/baseboard	07
2/1			X	8P	1	CK		X	White door stop Caulk	08
2/1			X	12P	1	CK		X	Gray bath window caulk	09
2/1			X	13P	1	CK		X	Exterior expansion joint	10

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed :	☐

B. [signature] 2/1/24 — Sampled By — Date/Time

B. [signature] 2/2 — Relinquished By — Date/Time

[signature] 2/2/24 09:51 — Received By — Date/Time

[signature] 2/2/24 10:03 — Received @ Lab By — Date/Time

6°C 2/2/24 09:53

Total Cost: ☐

P.I.F. ☐

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

RAVI RATES

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	Ravi Engineering & Land Surveying, P.C.	CLIENT:	Same	240495
ADDRESS:	2110 South Clinton Avenue, Suite 1	ADDRESS:		Quotation #:
CITY:	Rochester STATE: NY ZIP 14618	CITY:	STATE: ZIP:	
PHONE:	585-697-2083	PHONE:		Email: t.strzepek@ravieng.com breddy@ravieng.com; bfreeman@ravieng.com
ATTN:	Benjamin Reddy, Briana Freeman	ATTN:		

PROJECT REFERENCE

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Lead	PCB	REMARKS	PARADIGM LAB SAMPLE NUMBER
2/1			X	16P	CK	1		X	Black railroad track	11
2/1			X	17P	CK	1		X	Dark gray interior window	12
2/1			X	21P	CK	1		X	White bay door (ext.)	13
2/1			X	22P	CK	1		X	White - around exhaust	14
2/1			X	24P	CK	1		X	White - bay door by furnace	15

Turnaround Time		Report Supplements		
Availability contingent upon lab approval; additional fees may apply.				
Standard 5 day	X	None Required		None Required
10 day		Batch QC		Basic EDD
Rush 3 day		Category A		NYSDEC EDD
Rush 2 day		Category B		
Rush 1 day				
Other please indicate date needed:		Other please indicate package needed:		Other EDD please indicate EDD needed:

B. Fuce 2/1/24
Sampled By — Date/Time

B. Fuce 2/2
Relinquished By — Date/Time

2/2/24 09:51
Received By — Date/Time

2/2/24 10:03
Received @ Lab By — Date/Time

Total Cost:

P.I.F.

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: Ravi Engineering **Completed by:** Glenn Pezzulo

Lab Project ID: 240495 **Date:** 2/2/24

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	*NELAC compliance with the sample condition requirements upon receipt* Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		
Comments	6°C		
Compliant Sample Quantity/Type		X	
Comments	limited volume -09		

ATTACHMENT C

Previous Report

LIMITED PCB MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

Fisher Associates

For Lab Project ID

152746

Referencing

631 Northland

Prepared

Monday, July 13, 2015

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152746

Client: **Fisher Associates**

Project Reference: 631 Northland

Sample Identifier: PCB-2
Lab Sample ID: 152746-01 **Date Sampled:** 6/25/2015
Matrix: Caulk **Date Received:** 7/6/2015

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1221	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1232	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1242	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1248	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1254	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1260	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1262	< 3.69	mg/Kg		7/8/2015 21:18
PCB-1268	< 3.69	mg/Kg		7/8/2015 21:18

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**73.6**	30.5 - 159		7/8/2015 21:18
Tetrachloro-m-xylene	**112**	23.2 - 144		7/8/2015 21:18

Method Reference(s): EPA 8082A
EPA 3550C
Preparation Date: 7/8/2015

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152746

Client: **Fisher Associates**

Project Reference: 631 Northland

Sample Identifier: PCB-3
Lab Sample ID: 152746-02 **Date Sampled:** 6/25/2015
Matrix: Caulk **Date Received:** 7/6/2015

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1221	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1232	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1242	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1248	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1254	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1260	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1262	< 3.38	mg/Kg		7/10/2015 17:33
PCB-1268	< 3.38	mg/Kg		7/10/2015 17:33

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**83.6**	30.5 - 159		7/10/2015 17:33
Tetrachloro-m-xylene	**68.1**	23.2 - 144		7/10/2015 17:33

Method Reference(s): EPA 8082A
EPA 3550C
Preparation Date: 7/8/2015

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152746

Client: **Fisher Associates**

Project Reference: 631 Northland

Sample Identifier: PCB-14
Lab Sample ID: 152746-03 **Date Sampled:** 6/25/2015
Matrix: Caulk **Date Received:** 7/6/2015

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1221	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1232	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1242	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1248	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1254	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1260	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1262	< 4.93	mg/Kg		7/10/2015 17:58
PCB-1268	< 4.93	mg/Kg		7/10/2015 17:58

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**80.7**	30.5 - 159		7/10/2015 17:58
Tetrachloro-m-xylene	**63.2**	23.2 - 144		7/10/2015 17:58

Method Reference(s): EPA 8082A
EPA 3550C
Preparation Date: 7/8/2015

Analytical Report Appendix

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"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue
Rochester, NY 14608
(716) 647-2530 * (800) 724-1997

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT #:	CLIENT PROJECT #:
COMPANY:	Fisher Associates, P.E., L.S., P.C.	COMPANY:	Same as Report	152746	
ADDRESS:	135 Calkins Road	ADDRESS:			
CITY:	Rochester STATE: NY ZIP: 14534	CITY:	STATE: ZIP:	TURNAROUND TIME: (WORKING DAYS)	
PHONE:	585-334-1310 FAX: 585-334-1361	PHONE:	FAX:	STD	OTHER
ATTN:	Mark Stein	ATTN:		[ ] 1 [ ] 2 [ ] 3 [X] 5	[ ]
PROJECT NAME/SITE NAME:	631 NORTHLAND	COMMENTS:	631 NORTHLAND		

REQUESTED ANALYSIS

DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	Lead	PCB	REMARKS	PARADIGM LAB SAMPLE NUMBER
6/25/15	1300		X	PCB-2	CK	1		X		01
6/25/15	1300		X	PCB-3	CK	1		X		02
				PCB-14	CK	1		X		03

LAB USE ONLY

RECEIPT CONDITION: Check box if acceptable or note deviation: CONTAINER TYPE: [ ] PRESERVATIONS: [ ] HOLDING TIME: [ ] TEMPERATURE: [ ] 21°C 7/2/15 11:08

Sampled By: MTS	Date/Time: 6/25/15	Relinquished By:	Date/Time:	Total Cost:	
Relinquished By:	Date/Time: 7/2/15	Received By:	Date/Time:		
Received By:	Date/Time: 7/2/15, 09:23	Received @ Lab By:	Date/Time: 7/6/15 12:15	P.I.F.	

Chain of Custody Supplement

Client: Fisher Associates Completed by: Glenn Perzulo

Lab Project ID: 152746 Date: 7/6/15

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature		X	
Comments	21°C		
Sufficient Sample Quantity			
Comments			

ATTACHMENT D

Laboratory Ceritification

LIMITED PCB MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2024
Issued April 01, 2023
Revised April 05, 2023

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. STEVE DEVITO
PARADIGM ENVIRONMENTAL SERVICES INC
179 LAKE AVENUE
ROCHESTER, NY 14608

NY Lab Id No: 10958

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Polychlorinated Biphenyls

Aroclor 1268 (PCB-1268) in Oil	EPA 8082A

Polynuclear Aromatic Hydrocarbons

Acenaphthene	EPA 8270D
Acenaphthylene	EPA 8270D
Anthracene	EPA 8270D
Benzo(a)anthracene	EPA 8270D
Benzo(a)pyrene	EPA 8270D
Benzo(b)fluoranthene	EPA 8270D
Benzo(g,h,i)perylene	EPA 8270D
Benzo(k)fluoranthene	EPA 8270D
Chrysene	EPA 8270D
Dibenzo(a,h)anthracene	EPA 8270D
Fluoranthene	EPA 8270D
Fluorene	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 8270D
Naphthalene	EPA 8270D
Phenanthrene	EPA 8270D
Pyrene	EPA 8270D

Priority Pollutant Phenols

2,3,4,6 Tetrachlorophenol	EPA 8270D
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 8270D
2,4-Dichlorophenol	EPA 8270D
2,4-Dimethylphenol	EPA 8270D
2,4-Dinitrophenol	EPA 8270D
2,6-Dichlorophenol	EPA 8270D

Serial No.: 67733

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

LIMITED LEAD MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

Volume 3 of 3

Prepared For:

Wendel
375 Essjay Road, Suite 200
Williamsville, New York 14221

Prepared By:

Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Avenue, Suite 1
Rochester, New York 14618

February 2024

Project No. 43-24-029

DRAFT

LIMITED LEAD MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

Volume 3 of 3

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ATTACHMENT C PREVIOUS REPORT
ATTACHMENT D LABORATORY CERTIFICATION

EXECUTIVE SUMMARY

Ravi Engineering & Land Surveying, P.C. (RE&LS) was retained by Wendel to conduct a Limited Lead Material Survey at 631 Northland Avenue, Buffalo, New York 14211. The Survey was conducted from January 31 through February 1, 2024.

LEAD MATERIAL SAMPLING

Nine (9) paint chip samples and one (1) stained glass sample were collected and submitted to Paradigm Environmental Services, Inc. for lead analysis. According to the Occupational Safety and Health Administration (OSHA) Lead in Construction Standard, any concentration of lead in paint or other materials above zero (0) is considered to be lead-containing. Per OSHA Standards, nine (9) out of the ten (10) samples were determined to be lead-containing.

1.0 INTRODUCTION

Ravi Engineering & Land Surveying, P.C. (RE&LS) was retained by Wendel to conduct a Limited Lead Material Survey at 631 Northland Avenue, Buffalo, New York 14211. The Survey was conducted from January 31 through February 1, 2024.

2.0 PROJECT OVERVIEW

The Survey was conducted to support the renovation project of 631 Northland Avenue, Buffalo, New York. The scope of work was based on electronic correspondence between RE&LS and Wendel from July 2023 with follow-up correspondence in December 2023. Drawings of the building design from 1953 were provided by Wendel and included a ground floor and roof plan. As well as, detailed designs of the toilet rooms, furnace room, plumbing and the heating and ventilation systems. The Survey included the entire structure with exception of the roof.

3.0 LEAD MATERIAL SAMPLING/FINDINGS

The Lead Material Survey was conducted using portions of Chapter 7 of the United States Department of Housing and Urban Development (USHUD) *Guidelines for the Control and Evaluation of Lead-Based Paint Hazards in Housing (2012).* This Lead Material Survey is not intended to be a: "surface-to-surface investigation for lead-based paint" as defined by USHUD. Paint chip sampling procedures were used in accordance with USHUD. The remainder of the Guideline dictates procedures to be used for residential housing constructed before 1978. According to USHUD and the United States Environmental Protection Agency (USEPA), a paint/material is considered to be lead-based if concentrations are 0.5% or greater, by weight.

Applicable lead paint guidelines for the construction industry can be found in 29 CFR 1926.62. The Occupational Safety and Health Administration (OSHA) Lead in Construction Standard does not mandate testing for paint prior to, or post-renovation or renovation activities. The OSHA Standard is intended to protect workers from occupational exposures to lead in construction. For the purpose of the OSHA Standard, any concentration of lead in paint or other materials above zero (0) is considered to be lead-containing.

Nine (9) paint chip samples and one (1) stained glass sample were collected and submitted to Paradigm Environmental Services, Inc. (Paradigm) for lead analysis. A copy of Paradigm's Certification is included in Attachment D. Bulk sample locations are included in Attachment A. Per OSHA Standards, eight (8) of the nine (9) paint chip samples and the one (1) glass sample were determined to be lead-containing.

Table 1 – LEAD MATERIAL SAMPLING RESULTS

Sample Number	Location	Substrate	Color	Result by weight (%)
Paint-1	Exterior wall	Concrete block	Red	0.0977
Paint-2	Furnace railings and cross beams	Metal	Orange	**0.654**
Paint-3	Toilet room ceiling (Women's)	Plaster	Brown	0.00638
Paint-4	Toilet room ceiling (Men's)	plaster	White	0.266
Paint-5	Toilet room partitions	Metal	Green	0.131
Paint-6	Door to exterior	Metal	Maroon	0.113

Sample Number	Location	Substrate	Color	Result by weight (%)
Paint-7	Machinery	Metal	Blue	**1.66**
Paint-8	Metal sheets	Metal	Dark gray	BDL
Paint-9	Electrical box	Metal	Red/orange	0.00697
Glass-1	Window	Glass	Blue	**1.36**

BDL: Below Detection Limit
Bold: *Lead based material*

4.0 LIMITATIONS OF INVESTIGATION

The Survey included the spaces outlined in Section 2.0 Project Overview. Areas that were inaccessible were not sampled nor identified.

5.0 RECOMMENDATIONS

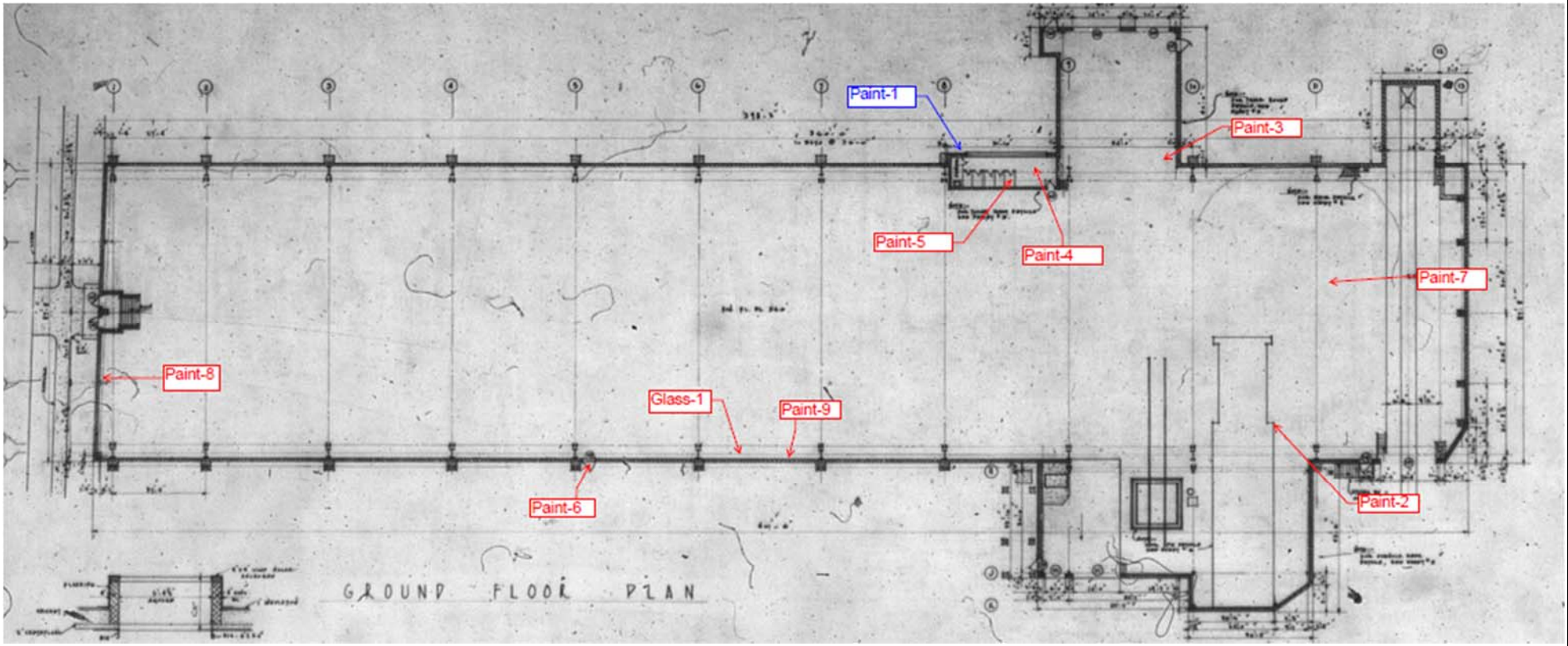
Suspect painted materials or other stained glasses, not identified in this Survey report, discovered during renovation or renovation activities shall be assumed to be lead-based until laboratory analysis proves otherwise. Contract work that will disturb lead-containing materials shall be performed in accordance with 29 CFR 1926.62.

ATTACHMENT A

Areas of Inspection/Bulk Sample Location Plans

LIMITED LEAD MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211



Legend:

Interior Sample Location

Exterior Sample Location

RAVI ENGINEERING & LAND SURVEYING, P.C.

2110 SOUTH CLINTON AVENUE, SUITE 1
ROCHESTER, NEW YORK 14618
TL: (585) 223-3660 FX: (585) 697-1764

631 NORTHLAND AVENUE
BUFFALO, NEW YORK 14211
LIMITED LEAD MATERIALS SURVEY

PROJECT NUMBER: 43-24-029

DATE: FEBRUARY 2024

ATTACHMENT A
AREAS OF INSPECTION/BULK SAMPLE LOCATION PLAN

SCALE: N.T.S.

DRAWING NUMBER: DWG-4

ATTACHMENT B

Analytical Report and Chain of Custody Forms

LIMITED LEAD MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

240494

Referencing

631 Northland Ave

Prepared

Friday, February 9, 2024

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below:

Reduced sample size used for Lead analysis due to limited sample volume. Kindly refer to Chain of Custody Supplement for the affected samples.

Emily Farmer

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-1 Red Exterior Paint		
Lab Sample ID:	240494-01	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.0977**	%		2/6/2024 08:47

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-2 Orange Railing & Cross Beam		
Lab Sample ID:	240494-02	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.654**	%		2/6/2024 08:50

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-3 Brown W. Bath Ceiling		
Lab Sample ID:	240494-03	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.00638**	%		2/6/2024 08:53

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-4 White M. Bath Ceiling		
Lab Sample ID:	240494-04	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.266**	%		2/6/2024 08:56

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-5 Green Bath Partition		
Lab Sample ID:	240494-05	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.131**	%		2/6/2024 09:00

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-6 Maroon Door To Exterior		
Lab Sample ID:	240494-06	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.113**	%		2/6/2024 09:03

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-7 Blue Old Machine		
Lab Sample ID:	240494-07	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**1.66**	%		2/6/2024 09:06

Method Reference(s):	EPA 6010C
	EPA 3050B
Preparation Date:	2/5/2024
Data File:	240206A

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-8 Dark Gray Metal Sheet		
Lab Sample ID:	240494-08	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	< 0.00492	%		2/6/2024 09:10

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Paint-9 Red/Orange Electric Box		
Lab Sample ID:	240494-09	**Date Sampled:**	2/1/2024
Matrix:	Paint	**Date Received**	2/2/2024

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.00697**	%		2/6/2024 09:13

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/5/2024
Data File: 240206A

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Glass-1 Blue Stained Glass		
Lab Sample ID:	240494-10	**Date Sampled:**	2/1/2024
Matrix:	Solid	**Date Received**	2/2/2024

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**1.36**	mg/Kg		2/7/2024 09:06

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/6/2024
Data File: 240207A

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"H" = Denotes a parameter analyzed outside of holding time.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

RAVI RATES

1 of 2

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	Ravi Engineering & Land Surveying, P.C.	CLIENT:	Same	240494
ADDRESS:	2110 South Clinton Avenue, Suite 1	ADDRESS:		Quotation #:
CITY:	Rochester STATE: NY ZIP 14618	CITY:	STATE: ZIP:	
PHONE:	585-697-2083	PHONE:		Email: TStrzepk@ravieng.com
ATTN:	Benjamin Reddy, Briana Freeman	ATTN:		breddy@ravieng.com; bfreeman@ravieng.com

PROJECT REFERENCE

631 Northland Ave

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Lead	REMARKS	PARADIGM LAB SAMPLE NUMBER
2/1			X	paint-1	PT	1	X	Red exterior paint	01
2/1			X	paint-2	PT	1	X	Orange railing + Cross beam	02
2/1			X	paint-3	PT	1	X	Brown W. bath ceiling	03
2/1			X	paint-4	PT	1	X	White M. bath ceiling	04
2/1			X	paint-5	PT	1	X	Green bath Partition	05
2/1			X	paint-6	PT	1	X	Maroon door to exterior	06
2/1			X	paint-7	PT	1	X	blue, old machine	07
2/1			X	paint-8	PT	1	X	Dark Gray metal sheet	08
2/1			X	paint-9	PT	1	X	Red/orange electric box	09
2/1			Y	Glass-1	SD	1	X	Blue stained glass	10

Turnaround Time		Report Supplements		
Availability contingent upon lab approval; additional fees may apply.				
Standard 5 day	X	None Required		None Required	
10 day		Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other (please indicate date needed: ____)		Other (please indicate package needed: ____)		Other EDD (please indicate EDD needed: ____)	

B. [signature] 2/1 — Sampled By — Date/Time

B. [signature] 2/2 — Relinquished By — Date/Time

[signature] 2/2/24 09:51 — Received By — Date/Time

[signature] 2/2/24 09:57 — Received @ Lab By — Date/Time

Total Cost:

P.I.F.

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: Ravi Engineering **Completed by:** Glenn Perrulo

Lab Project ID: 240494 **Date:** 2/2/24

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments			
Compliant Sample Quantity/Type	X -01, -04, -07, -10	X -02, -03, -05, -06, -08, -09	
Comments		limited volume MG 2/6/24	

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 240494

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Sample Identifier:	Glass-1 Blue Stained Glass		
Lab Sample ID:	240494-10	**Date Sampled:**	2/1/2024
Matrix:	Solid	**Date Received**	2/2/2024

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**1.36**	mg/Kg		2/7/2024 09:06

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 2/6/2024
Data File: 240207A

ATTACHMENT C

Previous Report

LIMITED LEAD MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

PARADIGM

ENVIRONMENTAL SERVICES, INC.

Analytical Report For

Fisher Associates

For Lab Project ID

152741

Referencing

631 Northland Ave

Prepared

Thursday, July 09, 2015

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-1, Structural Steel / Lite Green/Brown		
Lab Sample ID:	152741-01	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.194**	%		7/8/2015 17:03

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-2, Yellow Paint Catwalk/Stairs		
Lab Sample ID:	152741-02	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**3.08**	%		7/8/2015 17:14

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-3, Metal On Lg Furnace		
Lab Sample ID:	152741-03	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.0635**	%		7/8/2015 17:17

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-4, Brown Lockers		
Lab Sample ID:	152741-04	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.0864**	%		7/8/2015 17:20

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-5, Ceiling Paint White		
Lab Sample ID:	152741-05	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	< 0.0123	%		7/8/2015 17:24

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-6, Partition Bathrooms		
Lab Sample ID:	152741-06	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	< 0.0115	%		7/8/2015 17:27

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-7, Maroon Block Walls		
Lab Sample ID:	152741-07	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**0.0365**	%		7/8/2015 17:31

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 152741

Client: **Fisher Associates**

Project Reference: 631 Northland Ave

Sample Identifier:	LBP-8, Blue Doors		
Lab Sample ID:	152741-08	**Date Sampled:**	6/26/2015
Matrix:	Paint	**Date Received:**	7/6/2015

Lead

Analyte	Result	Units	Qualifier	Date Analyzed
Lead	**1.96**	%		7/8/2015 17:34

Method Reference(s): EPA 6010C
EPA 3050
Preparation Date: 7/7/2015
Data File: 070815b

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

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All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

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Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:	INVOICE TO:	
CLIENT: FISHER ASSOCIATES	CLIENT:	LAB PROJECT ID: 152741
ADDRESS: 135 CACKING ROAD	ADDRESS:	
CITY: ROCHESTER STATE: NY ZIP: 14623	CITY: Same STATE: ZIP:	Quotation #:
PHONE: 334-1310	PHONE:	Email:
ATTN: MARK STEIN	ATTN:	

PROJECT REFERENCE: 631 Northland Ave

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	LEAD	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	6/26/15	1230		X	LBP-1	pt	1	X	Structural Steel / Beams (Like Paint)	01
2	6/26/15			X	LBP-2	pt	1	X	Yellow Paint catwalk / stairs	02
3	6/26/15			X	LBP-3	pt	1	X	Metal on lg furnace	03
4	6/26/15			X	LBP-4	pt	1	X	Brown Lockers	04
5	6/26/15			X	LBP-5	pt	1	X	Ceiling paint white	05
6	6/26/15			X	LBP-6	pt	1	X	Painting Bathrooms	06
7	6/26/15			X	LBP-7	pt	1	X	Maroon block walls	07
8	6/26/15	1230		X	LBP-8	pt	1	X	Blue Doors	08
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By: MTS	Date/Time: 6/26/15 1230	Total Cost:
Relinquished By:	Date/Time: 7/2/15 9:20	
Received By:	Date/Time: 7/6/15 08:27	P.I.F.
Received @ Lab By:	Date/Time: 7/6/15 10:58	

22°C 7/2/15 11:00

Chain of Custody Supplement

Client: Fisher Associates Completed by: Glenn Pezzulo

Lab Project ID: 152741 Date: 7/6/15

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments	22°C		
Sufficient Sample Quantity	X		
Comments			

ATTACHMENT D

Laboratory Ceritification

LIMITED LEAD MATERIAL SURVEY

631 Northland Avenue
Buffalo, New York 14211

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2024
Issued April 01, 2023

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. STEVE DEVITO
PARADIGM ENVIRONMENTAL SERVICES INC
179 LAKE AVENUE
ROCHESTER, NY 14608

NY Lab Id No: 10958

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Metals I

Cadmium, Total	EPA 6010C
Calcium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Chromium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Copper, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Iron, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Lead, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Magnesium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Manganese, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Nickel, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Potassium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Silver, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Sodium, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C

Metals II

Aluminum, Total	EPA 200.7, Rev. 4.4 (1994)
	EPA 6010C
Antimony, Total	EPA 200.7, Rev. 4.4 (1994)

Serial No.: 67571

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Phase I Environmental Site Assessment

631 Northland Avenue
Buffalo, New York 14211

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February 23, 2024 PN: 43-24-029

PRIVILEGED AND CONFIDENTIAL

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EXECUTIVE SUMMARY

Ravi Engineering & Land Surveying, P.C. (RE&LS) performed this Phase I Environmental Site Assessment (ESA) in general accordance with the scope and limitations of ASTM E1527-21 and the November 1, 2005 United States Environmental Protection Agency (USEPA) regulations for "Conducting All Appropriate Inquiries" (CAAI), for Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C (Wendel) and Buffalo Urban Development Corporation (BUDC). Assignment of this document can be made only with the written permission of RE&LS.

Site Description

The subject site is an approximately 2.63-acre parcel on the south side of Northland Avenue in the City of Buffalo, New York (the "Site"). It is developed with an approximately 40,768 square foot (sq. ft.) building of block and brick construction, built in 1953. It is improved with an approximately 24,000 sq. ft. asphalt parking lot to the east, and an approximately 13,800 sq. ft. concrete paved lot to the west of the Site building. The Site is owned by BUDC.

The Site was reportedly developed in 1953 in association with the Niagara Machine & Tool metal fabricating plant historically located on the eastern adjacent property at 683 Northland Avenue. It operated as a metal fabricating plant under the name Clearing Niagara, and has been vacant since operations ceased in 1992. Notable features of the building includes furnaces for metal fabrication, a sandblaster, several overhead cranes, and a railroad spur. Most of the historic metal fabricating machinery has been removed from the Site building. Historic use of the Site for manufacturing is a recognized environmental conditions (RECs).

The Site inspection (reconnaissance) conducted on February 1, 2024 also identified several RECs in connection with the Site. Several drums, oil staining on the wood block flooring, an apparent manhole with a welded cover, an aboveground storage tank (AST) (contents unknown), at least one floor drain, and a sump were observed in the subject building.

A review of available historic documentation, including Sanborn maps, aerial photographs, and street directories indicates that the Site and adjacent properties were historically utilized for manufacturing of machinery and sheet metal, household and automotive polish, liquid and cement, electric control panels, and/or printed circuit boards.

Phase II ESA; 631, 683, 741, and 777 Northland Avenue (Fisher Associates, September 2015)

RE&LS reviewed Fisher's Phase II ESA conducted in 2015. The results of this Phase II ESA indicate that soil contamination near the south end of the Site building and southeastern portion of the Site exceed NYCRR Part 375-6.8 Commercial and Industrial Use Soil Cleanup Objectives (SCOs) for semi-volatile organic compounds (SVOCs) and metals. Polychlorinated biphenyls (PCBs) were detected in samples collected from the wood block flooring.

Adjacent Properties Descriptions

A review of historical documentation and regulatory databases has identified two adjacent properties of concern.

Vibratech, Inc. Site (formerly Houdaille Industries)

This facility is located on the northern adjacent property at 537 East Delvan Avenue, and was historically used for industrial purposes dating back to 1927. It is identified on the Superfund Enterprise Management System (SEMS), State Hazardous Waste Sites (SHWS), and Vapor Reopened databases. Operations included degreaser use and storage with several 10,000 to 12,000-gallon underground storage tanks (USTs) and ASTs, and an open hole bedrock well that was potentially used for disposal. Contaminants of concern at this property include petroleum products, and chlorinated volatile organic compounds (cVOCs), including trichloroethane (TCE).

Western NY Workforce Training Center

This facility is located on the eastern adjacent property addressed as 665 & 683 Northland Avenue, and is identified on the New York (NY) Brownfields database. The property was historically used as a machine and tool works facility beginning in 1911, and used hydraulic, electrical, and industrial equipment that led to the contamination of the property. The contamination included SVOCs, PCBs, and metals in soil, and TCE in soil vapor. Hydraulic oil was also identified in the bedrock.

Remedial actions have successfully achieved SCOs for Commercial use. However, residual contamination remains in soil, bedrock, and soil vapor. The property is being managed under a Site Management Plan (SMP). As the use of the property is restricted by the SMP, the residual contamination is considered a controlled recognized environmental condition (CREC) as defined in Section 1.1 of this report. Soil, groundwater and soil vapor at the Site have the potential to be adversely impacted from historic operations at this property.

Business Environmental Risks

RE&LS conducted a Hazardous Materials Inspection of the Site building to identify the presence of asbestos containing materials (ACM), lead-based paint (LBP), and materials containing PCBs. The findings of the Hazardous Materials Survey will be submitted under separate cover.

Conclusion

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice El527-21 of the subject property at 631 Northland Avenue in the City of Buffalo, New York. Any exceptions to, or deletions from, this practice are described in Section 11 of this report. This assessment has revealed no RECs, CRECs, or significant data gaps in connection with the Site **except for the following:**

1. Historic usage of the Site for metal fabricating, and the potential for releases of cutting oils, hydraulic oils, other petroleum products, and degreasing agents
2. Analytical data from a 2015 Phase II ESA investigation identifying hazardous concentrations of SVOCs in soil
3. Floor drains, a sump, and an apparent manhole with a welded cover in the Site building, and the potential for improper disposal of degreasers and other contaminants
4. A railroad spur on the Site, and the potential for petroleum and chemical spills during the transfer of shipments

5. The potential for petroleum releases in association with the AST, and the potential for unidentified orphan USTs to be present on the Site
6. The potential for groundwater and soil vapor impacts at the Site from historic industrial uses of the adjacent properties, specifically in association with the CREC on the eastern adjacent property and the former Houdaille Industries property on the northern adjacent property.

Additional Investigation and Recommendations

Based on this Phase I ESA, additional investigation is warranted. We recommend performing a Phase II ESA/Site Characterization Investigation to evaluate the extent of contamination identified in Fisher's Phase II ESA, and the presence of unidentified contamination at the Site.

1.0 INTRODUCTION

1.1 Purpose

The purpose of the Phase I ESA is to perform an "All Appropriate Inquiry" (AAI) into the previous ownership and uses of the property as defined in Title 42 of the United States Code (USC), Section 9601(35)(B).

The Phase I ESA is performed to characterize the Site with respect to RECs in connection with the property, including the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and petroleum products.

A Recognized Environmental Condition (REC) is defined by ASTM E1527-21 as the presence or likely presence of *hazardous substances* or *petroleum products* on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any *hazardous substances* or *petroleum products* into structures on the property or into the ground, groundwater, or surface water of the property, even under conditions that are in compliance with the laws.

A Historical Recognized Environmental Condition (HREC) is defined by ASTM E1527-21 as *A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been address to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority without subjecting the property to any required controls (e.g. property use restriction, AULS, institutional controls, or engineering controls), at the time the Phase I ESA is conducted (e.g. if there has been a change in the regulatory criteria).*

A Controlled Recognized Environmental Condition (CREC) is defined by ASTM E1527-21 as *A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).*

The term REC is not intended to include de minimis conditions that generally do not present a threat to public health or the environment, and that would not be the subject of an enforcement action if brought to the attention of the appropriate regulatory agencies.

1.2 Scope of Services

The scope of the Phase I ESA is limited to a review of the following sources of information.

A) A review of permits, reports, and other records to identify:
- past and on-going releases of possible environmental contaminants (i.e., hazardous and non-hazardous materials);
- proximity to sensitive receptors;
- past and current aboveground storage tanks (ASTs) and underground storage tanks (USTs) including location, size, age, construction material and contents;
- hazardous materials/hazardous waste management, storage and disposal practices;
- industrial wastewater discharge practices;
- elevated radon levels of potential concern; and
- other information as required by ASTM E1527-21 and EPA 40 CFR Part 312.

B) Historic Sanborn Maps, aerial photographs, and street directories which may reflect prior uses of the subject property and which are reasonably obtainable through state or local government agencies.

C) Reasonably obtainable federal, state, and local government records of: listed hazardous/solid waste sites, spill reports, underground and bulk storage tank facilities, hazardous waste treatment, storage and disposal (TSD) handler and generator records and recorded environmental complaints as provided by Environmental Data Resources, Inc. (EDR).

D) A visual Site reconnaissance of the subject property and all facilities and improvements on the subject property. The Site reconnaissance will include a visual inspection, interviews of the owner, knowledgeable personnel, and such other persons as required by ASTM E1527-21 and EPA 40 CFR Part 312.

E) To augment that information, Freedom of Information Law (FOIL) requests were sent to the New York State Department of Environmental Conservation (NYSDEC), Erie County, and the City of Buffalo for information relative to the Site.

1.3 Significant Assumptions

This report is prepared with no significant assumptions. RE&LS reserves the right to revise this report based upon any pertinent information concerning the subject property that may be forthcoming from these agencies.

1.4 Limitations and Exceptions

Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C **(**Wendel) retained RE&LS to perform this work per the Notice to Proceed dated January 26, 2024.

RE&LS represents only that it provides services in accordance with generally accepted practices. No other representation, expressed or implied, is included or intended as part of its services, proposals, contracts or reports.

RE&LS cannot provide guarantees, certifications or warranties that the property is or is not free of environmental impairment without a Phase II Environmental Site Assessments investigation involving collection and laboratory analysis of environmental samples. Even with such a program, the data and samples from any given soil boring or monitoring well will indicate conditions that apply only at that particular location, and such conditions may not necessarily apply to the general Site as a whole.

1.5 Special Terms and Conditions

RE&LS has performed this work in general accordance with the ASTM E1527-21 Standard Practice for ESAs, the November 1, 2005 USEPA regulations for CAAI.

1.6 User Reliance

This report is prepared exclusively for Wendel and BUDC. This report is not for the use of, nor may it be relied upon by any other person or entity, for any purpose without the advance written consent of RE&LS.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The Site is developed with a vacant warehouse on an approximately 2.63-acre parcel on the south side of Northland Avenue in the City of Buffalo, New York. It is owned by BUDC, and is currently used for storage of construction building materials.

The Site is listed as City of Buffalo tax identification number 101.21-5-1.21.

RE&LS was not provided with a legal description of the subject Site when this Phase I ESA was prepared.

2.2 Site and Vicinity General Characteristics

The Site is developed with a vacant warehouse that was historically used as a metal fabrication facility. It is surrounded by a mix of industrial, commercial, and residential properties.

2.3 Descriptions of Structures, Roads, Other Improvements on the Site

The Site is developed with an approximately 40,768 sq. ft. building of block and brick construction, built in 1953. It is improved with an approximately 24,000 sq. ft. asphalt parking lot to the east, and an approximately 13,800 sq. ft. concrete paved lot to the west of the subject building. A CSX railroad corridor bounds the Site to the south.

2.4 Geologic, hydro geologic, hydrologic and topographic conditions of the property; and of the surrounding area

Bedrock beneath the Site is composed of a Middle Devonian stratified sequence. Surficial deposits are mapped as "urban land." Based on surficial topography, the regional groundwater flow direction beneath the Site is presumed to be towards Lake Erie to the southwest.

2.5 Current and Historic Uses of the Site

The Site was reportedly developed in 1953 in association with the Niagara Machine & Tool metal fabricating plant historically located on the eastern adjacent property at 683 Northland Avenue. It was operated under the name Clearing Niagara until approximately 1992, and is currently vacant.

2.6 Current Uses of the Adjacent Properties

Uses of the adjacent properties includes the following:

North:	Parking lot
Northeast	Vacant lot/power transfer station
East	Northland Central complex including ReTech Systems, Northland Workforce Training Center, Buffalo Manufacturing Works, Rodriguez Construction Group, Alfred State College, Insyte Consulting, Garwood Medical Devices, Bank on Buffalo, SUNY Erie, NY Power Authority, and SparkCharge (683 Northland Avenue)
South	CSX, Inc. railroad corridor
West	Vacant commercial building (597 Northland Avenue)
Northwest	Vacant manufacturing building (612 Northland Avenue)

3.0 USER PROVIDED INFORMATION

A User Questionnaire was completed by BUDC Representative, Angelo Rhodes II. The completed questionnaire is included in Appendix 3.

3.1 Title Records

RE&LS reviewed Stewart Title Insurance Company Policy No. O-8911-000680022 for 644, 664, 631, 688, 690, 698 and 741 Northland Avenue, and 126 and 128 Dutton Street in the City of Buffalo, New York. Based on our review of the title report, no environmental liens or activity and use limitations, per Section 6.2 of ASTM E1527-21, were identified as being recorded against the Site.

3.2 Environmental Liens or Activity and Use Limitations

Mr. Rhodes stated that there are no liens or activity and use limitations due to environmental conditions relative to the Site (Appendix 3).

3.3 Specialized Knowledge

Mr. Rhodes stated that the Site was historically used as a machine and tool works facility.

3.4 Valuation Reduction for Environmental Issues

Mr. Rhodes stated that the Site was purchased by BUDC as is.

3.5 Commonly Known or Reasonably Ascertainable Information

Mr. Rhodes referred to a previous Phase I and II ESAs completed by Fisher Associates in 2015 (refer to Section 5.8.5).

3.6 Degree of Obviousness of the Presence of Contamination

Mr. Rhodes stated that the potential for contamination exists due to the Site's relationship with the other properties located nearby where contamination was previously identified.

3.7 Reason for Performing Phase I Environmental Site Assessment

This Phase I ESA was performed to update a Phase I ESA performed in 2015.

4.0 SITE RECONNAISSANCE

Lynn Zicari and Whitney McAlpin of RE&LS conducted the Site reconnaissance on February 1, 2024 to identify potential RECs associated with the subject property.

4.1 Methodology and Limiting Conditions

The Site reconnaissance was performed by conducting a Site walkover of the building exterior and perimeter, and a walk-through of the Site building interior. An assessment of structural conditions and hazardous materials was conducted under a separate scope of work.

All areas within the Site building were accessed during the Site reconnaissance; however, snow cover on the eastern and southern parking lots, and storage of building materials within the subject building limited observations of floor and ground surfaces. In addition, RE&LS was not able to enter a blast furnace on the west side of the building exterior; a hatch opening allowed a limited visual inspection that indicated that the furnace was empty.

RE&LS was limited to the degree of accuracy of information provided by the EDR database report, readily available historic information, and information obtained by Site contacts and local and state agencies.

4.2 Observations

4.2.1 Source of potable water on the property

The Site is serviced by municipal water.

4.2.2 Sewage disposal system on the property (type and age)

The Site is serviced by the municipal sewer system.

4.2.3 Any wastewater (including stormwater) discharges into a drain, ditch or stream on the property and on adjacent property

Storm drains were observed on the northern portion of the Site and in the parking lot on the eastern portion of the Site. They reportedly discharge to the public sewer system.

4.2.4 Sources of any noxious odors, any pools of liquid, or any standing surface water on the subject property or adjacent properties

At the time of the Site inspection, petroleum odors were observed throughout the Site building.

4.2.5 All drains and any pits, cisterns, cesspools or similar receptacles where liquids drain, collect or are stored (e.g., sumps) on the subject property or adjacent properties

A floor drain, a large sump and floor pit with standing water, and an apparent manhole with a welded cover were observed in the Site building. The floor drain and sump reportedly discharge to the public sewer system. No information regarding the construction or discharge location of the manhole structure could be obtained.

4.2.6 Pits, ponds and lagoons (open pools) likely to contain hazardous substance or petroleum products, particularly if used in connection with waste disposal or waste treatment on the subject property and on adjacent properties)

A sand pit located in the northwestern corner of the Site building was observed covered by pallets of building materials, therefore no observations could be made regarding the appearance of the contents of the pit.

4.2.7 Current and past uses likely to indicate or known to have resulted in RECs on the property or adjacent properties

The Site is developed with a large industrial building that features furnaces for metal fabrication, a sandblaster, several overhead cranes, and a railroad spur. Several drums were also observed in the building.

The northern and eastern adjacent properties currently are utilized as parking lots. A large chimney stack was observed on the northern adjacent property addressed as 537 Delvan Avenue, and appears to be all that is left of the historical industrial building on that property. The western and northwestern adjacent properties are developed with vacant industrial buildings.

4.2.8 Current and past uses of the subject property and adjacent properties involving petroleum products and/or hazardous materials

With the exception of the overhead cranes, most of the historic metal fabricating machinery has been removed from the Site building. Oil staining from cutting oils and leaky machinery was observed on the wood block flooring. An AST (contents unknown) was noted at the western perimeter of the building exterior.

4.2.9 All ASTs and USTs, including contents, capacity and age. Identify visible vent pipes; fill pipes, and access ways

An AST was noted on the western exterior of the Site building. No ASTs or USTs were noted on any of the adjacent properties at the time of the Site inspection. However, regulatory records include an AST and USTs historically located on the eastern adjacent property (refer to Section 5.2).

4.2.10 Contents of any drums and other containers on the subject property or adjacent properties

Several 55-gallon drums were found throughout the subject property. Five drums inside the Site building contained a material that appeared to be soil. One of the drums was labeled “Boiler Water Treatment”.

4.2.11 Any dry wells, irrigation wells, injection wells, abandoned wells, monitoring wells, supply wells, or other wells

Three groundwater monitoring wells were observed in the parking lot on the eastern and southeastern portions of the Site. One of the wells was installed in conjunction with a Phase II ESA performed in 2015 by Fisher Associates (refer to Section 5.8.5). No information was obtained for the other two wells as of the date of this report.

4.2.12 Electrical or hydraulic equipment likely to contain polychlorinated biphenyls (PCBs)

Historical use of the Site as a metal-fabricating facility, and the presence of cranes within the building indicate usage of cutting, lubricating and hydraulic oils, and the potential for leaks and spills. Based on the construction date of the Site building, and the 1979 ban on the production of PCB-containing products in the United States, these oils potentially contained PCBs.

A pad-mounted transformer was observed in the parking lot adjacent to the Northland Avenue right-of-way. No leaks, stains, or spills were observed in the vicinity of the transformer. However, the transformer oil may also contain PCBs. The transformer is owned by Niagara Mohawk Power Corporation. As the owner of the transformer, it is responsible for the proper operation, maintenance, repair and disposal of the transformer and its contents. If a spill occurs, it is responsible for remediation of the spill.

4.2.13 Stained soil or pavement

None observed

4.2.14 Stressed vegetation

None observed

4.2.15 Any solid waste disposal on Site

Miscellaneous solid waste including oil-covered wood block flooring, fire brick, construction and demolition debris, and miscellaneous solid waste was observed on the interior and exterior of the Site.

4.2.16 Any unnatural grading or fill of unknown origin

None observed

4.2.17 The type of heating, ventilation, and air conditioning (HVAC) system and fuel source

The Site building is not currently heated. It was reportedly historically heated with steam generated from boilers located at 683 Northland Avenue.

4.2.18 Any stains or corrosion on floors, walls or ceilings

The floor in the Site building is constructed of wood blocks overlying concrete. The wood blocks appeared to be stained from cutting oils, hydraulic oils, and/or other petroleum products.

5.0 RECORDS REVIEW

RE&LS obtained the EDR Radius Map Report dated January 30, 2024 using the ASTM-specified search distances relative to the Site (Appendix 5).

5.1 Federal Government Records

National Priorities List (NPL)

There are no NPL facilities identified within 1.0 mile of the Site.

Delisted NPL

There are no Delisted NPL facilities identified within 1.0 mile of the Site.

Superfund Enterprise Management System (SEMS)

There are two (2) SEMS facilities identified within 0.5 mile of the Site. One of these facilities is identified as *Vibratech* at 537 East Delvan Avenue, located on the northern adjacent property. Based on distance and elevation, as well as the historical use of this facility for manufacturing, this facility is of potential concern relative to the Site.

SEMS-Archive

There is one (1) SEMS-Archive facility identified within 0.5 mile of the Site. An archived facility is one at which USEPA has determined that assessment has been completed and no further remedial action is planned. It does not appear to be of environmental concern relative to the Site.

Corrective Actions (CORRACTS)

There is one (1) CORRACTS facility identified within 1.0 mile of the Site. Based on the distance from the Site, it is not likely that this facility will have an adverse environmental impact on the Site.

Resource Conservation and Recovery Act Information System–Transporters, Storage and Disposal Facilities (RCRA - TSDF)

There are no RCRA-TSDF identified within 0.5 mile of the Site.

RCRA –Large Quantity Generator (LQG), Small Quantity Generator (SQG), Very Small Quantity Generator (VSQG), and Non-Generators (Non-Gen)

There are no RCRA-listed LQG, SQG, or VSQG facilities identified on the Site or the adjacent properties.

There are three (3) RCRA-listed Non-Gen facilities identified on the eastern and northwestern adjacent properties. These facilities are required to provide information concerning their activities to state environmental agencies, which in turn provide the information to regional and national USEPA offices. These facilities are not identified on the EPA corrective action list, or NYSDEC spills list. It is not expected that activities at these facilities will have an adverse environmental impact upon the Site.

Federal Institutional Control/Engineering Control (IC/EC) Sites

The Site is not identified on the IC/EC database.

Emergency Response Notification System (ERNS)

The Site is not identified on the ERNS database.

5.2 State Government Records

State Hazardous Waste Sites (SHWS)

There are seven SHWS within 1.0 mile of the Site. A review of the location and distance of these SHWS indicates that one facility, *Vibratech, Inc*. (formerly *Houdaille Industries*), located at 537 East Delavan Street, has the potential to negatively impact groundwater and indoor air at the Site. *Vibratech, Inc*. is located on the northern adjacent property, and was historically used for industrial purposes dating back to 1927. Operations included degreaser use and storage with several 10,000 gallon or greater USTs and ASTs, and an open hole bedrock well that was potentially used for disposal. Contaminants of concern at this facility include petroleum products, and TCE and other cVOCs.

Solid Waste Facilities/Landfills (SWF/LF)

A search of SWF/LF within 0.5 mile identified three (3) facilities that are >0.2 mile the Site. Based on distance and the apparent groundwater flow direction, it is not likely that either of these facilities will have an adverse environmental impact on the Site.

Leaking Storage Tanks (LTANKS)

There are twenty-two (22) LTANK within 0.5 mile of the Site. Based on distance and/or the apparent groundwater flow direction, it is not likely that any of them will have an adverse environmental impact on the Site.

Registered Petroleum Bulk Storage (PBS) including Aboveground Storage Tanks (AST) and Underground Storage Tanks (UST)

Western NY Workforce Training Center, located at the eastern adjacent property addressed as 683 Northland Avenue, is identified in the PBS database. The listing includes one (1) closed-removed 6,000 gallon AST, and nine (9) closed-removed USTs ranging between 1,000 and 23,380 gallons. Based on the closed-removed status of the tanks, and the lack of NYDEC spills associated with the property, it is not likely that these tanks will have an adverse environmental impact on the Site.

State Institutional Control/Engineering Control (IC/EC)

The Site is not identified on the NYS IC/EC registry.

Voluntary Cleanup Program (VCP)

There are no VCP facilities within 0.5 mile of the Site.

NY Brownfields

There are four (4) NY Brownfields within 0.5 mile of the Site. One (1) facility, *Western NY Workforce Training Center*, is located on the eastern adjacent property addressed as 665 & 683 Northland Avenue. The property was historically used as a machine and tool works facility beginning in 1911, and used hydraulic, electrical, and industrial equipment that led to the contamination of the property. The contamination included SVOCs, PCBs, and metals in the soil, and TCE in soil vapor. Hydraulic oil was also identified in bedrock.

Remedial actions have successfully achieved SCOs for Commercial use. However, residual contamination remains in soil, bedrock, and soil vapor, and the property is being managed under a SMP. As the use of the property is restricted by the SMP, the residual contamination is considered a CREC as defined in Section 1.1 of this report. Soil, groundwater and soil vapor at the Site have the potential to be adversely impacted from historic operations at this property.

Environmental Restoration Program (ERP)

There is one (1) ERP facility identified within 0.5 mile of the Site. Based on distance and elevation, it is not likely that this property will have an adverse environmental impact on the Site.

5.3 Additional Environmental Record Sources

US Brownfields

There is one (1) US Brownfield within 0.5 mile of the Site. Based on distance and elevation, it is not likely that this property will have an adverse environmental impact on the Site.

SW Tire

There is one (1) SW Tire facility within 0.5 mile of the Site. Based on distance, it is not likely that this property will have an adverse environmental impact on the Site.

NYSDEC Spills

There are five (5) NYSDEC Spills within 0.125 mile of the Site. All have been closed by the NYSDEC with no further action required. Two (2) of the spills occurred on adjacent properties:

- Spill No. 1402816 was reported at 601 Northland Avenue, the western adjacent property, after approximately twelve (12) 55-gallon burnt and bulging drums were observed in the location of a former commercial building. The drums were found to be empty or containing water. They were removed from the property, and the spill was closed by the NYSDEC with no further action required.
- Spill No. 9601211 was reported at 602 Northland Avenue, the northwestern adjacent property, after it was reported that a hose from a powder coating line was discharging to a catch basin. The property was inspected, and the hose was found under the sewer grate. No additional information was available. The spill was closed by the NYSDEC.

Based on the information provided, it is not likely that these spills will have an adverse environmental impact on the Site.

Formerly Used Defense Sites (FUDS)

There are three (3) FUDS within 0.5 mile of the Site. Based on distance, it is not likely that these facilities will have an adverse environmental impact on the Site.

Formerly Utilized Sites Remedial Action Program (FUSRAP)

There is one (1) FUSRAP facility identified within 0.5 mile of the Site. Based on distance and elevation, it is not likely that this property will have an adverse environmental impact on the Site.

PFAS (Per- and Polyfluoroalkyl Substances) ECHO (Enforcement and Compliance History Online)

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. The United States Environmental Protection Agency (EPA) has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

According to EDR, there are two (2) PFAS ECHO facilities within 0.5 mile of the Site. One (1) of these facilities is located at 711 Northland Avenue, approximately 0.14 mile east of the Site.

NYS CERCLIS Equivalent Sites (HSWDS)

There is one (1) HSWDS within 0.5 mile of the Site. Based on the distance from the Site, it is not likely that this property will have an adverse environmental impact on the Site.

NY Manifest/Manifest

There are sixteen (16) NY Manifest facilities within 0.5 mile of the Site. Three Manifest listings are associated with the Site and/or adjacent properties, and are included here to document historic use of contaminants that could potentially impact the Site:

Clearing Niagara, addressed as 637-697 Northland Avenue, is listed in the Manifest database as EPA ID NYD002101442. EDR identifies this as the Site. However, according to the City of Buffalo Assessor, the Site has been addressed as 631 Northland Avenue since it was first developed. Operations reportedly ceased at the Site in 1992, and several of the Manifest documents are dated after 1992. This listing appears to be associated with the eastern adjacent property. The following materials were reportedly generated:

- 1989: 217 pounds of ignitable wastes
- 1991: 172 pounds of ignitable wastes, and 172 pounds tetrachloroethylene
- 1992: 172 pounds of ignitable wastes
- 1993: 31 gallons of ignitable wastes
- 1995: 840 pounds of spent halogenated wastes including xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexane, and methanol
- 1998: 1,050 pounds spent halogenated wastes
- 2001: 5,000 pounds and 110 gallons of ignitable wastes, and 12,500 pounds of spent halogenated

683 Northland Avenue, is located on the eastern adjacent property. This property, identified as EPA ID NYR000232587, generated 35,776 kilograms of PCB wastes including contaminated soil, solids, sludges, clothing, rags and dredge material in 2017 that was transported off-site to a landfill for disposal.

Buffalo Powder Coating, addressed as Northland Avenue, is located on the northwestern adjacent property. This property, identified as EPA ID NYR0000563684, generated 4,800 pounds of cadmium between 1994 and 1995 that was transported off-site to a landfill for disposal.

PA Manifest

There are two (2) PA Manifest facilities within 0.5 mile of the Site. Based on the distance from the Site, is not likely that these facilities will have an adverse environmental impact on the Site.

Vapor Reopened

There is one (1) Vapor Reopened facility located on the northern adjacent property, addressed as 537 East Delavan Avenue. Based on the proximity of this property to the Site, there is the potential that soil vapor beneath the Site has been adversely impacted from historic use of this property.

5.5 Orphan Sites

The following orphan sites were identified by EDR:

- 664-690 Northland Avenue is identified on the NY SHWS, and is located at 664, 688 and 690 Northland Avenue, approximately 160 feet to the northeast of the Site.
- OTIS Elevator is identified on the NY SHWS, and is located at Grider Street, at least 0.3 mile to the east of the Site.
- NYS Thruway Exit 52 is identified on the NY SHWS, and is located at Exit 52 (Walden Avenue) Interchange, approximately 3.5 miles to the southeast of the Site.
- CMS Associates, Inc. is identified on the NY Vapor Reopened, and is located at 210 French Road, approximately 5.7 miles to the southeast of the Site.

Based on the distance from the Site, the orphan site addressed as 664-690 Northland Avenue is of potential environmental concern relative to the Site.

5.7 Physical Setting Source(s)

EDR references the current USGS 7.5 Minute Topographic Map (Appendix 5). Based on the surficial topography, the regional groundwater flow direction beneath the Site is presumed to be toward Lake Erie to the southwest. Bedrock beneath the Site is composed of a Middle Devonian stratified sequence, and surficial deposits are mapped as urban land.

5.8 Historic Use Information on the Site and the Adjacent Properties

5.8.1 Sanborn Maps

Year	Site Description	Adjacent Property Description
1900	Unmapped	North – Unmapped Northeast - Unmapped East – Unmapped South – Railroad tracks West – C.H. Hosmer & Co. (grease, oil & bicycle sundries manufacturing) Northwest - Unmapped
1917	Undeveloped	North – Undeveloped Northeast – Residential dwellings East – Niagara Machine & Tool Works (sheet metal work machinery manufacturing) South – Railroad tracks West – Geo. A. Hosmer & The Buffalo Specialty (grease, oil & bicycle sundries manufacturing) Northwest – Residential dwelling
1939	Undeveloped	North – Boiler house with a fuel oil tank approximately 300 feet from the Site Northeast – Residential dwellings East – Niagara Machine & Tool Works (sheet metal work machinery manufacturing) South – Railroad tracks West – Liquid Veneer Corporation (household & automotive polish, liquid and cement manufacturing) Northwest – Heat treating building
1950	Undeveloped	North – Boiler house and pump house with a fuel oil tank and four 12,000-gallon oil tanks approximately 300 feet from the Site Northeast – Residential dwellings East – Niagara Machine & Tool Works (sheet metal work machinery manufacturing) South – Railroad tracks West – Houde Engineering Corporation Northwest – Heat treating building
1986	Developed with the current Site building, and labeled as a "factory building"	North – Boiler house and pump house with a fuel oil tank and four 12,000-gallon oil tanks approximately 300 feet from the Site Northeast – Switch house and transfer yard East – Niagara Machine & Tool Works (sheet metal work machinery manufacturing) South – Railroad tracks West – Houde Engineering Corporation Northwest – Heat treating building

5.8.2 Aerial Photographs

Year	Site Description	Adjacent Property Description
1938 1951	Undeveloped	North – Large manufacturing type building and parking lot Northeast – Residential homes East – Large manufacturing type building complex South – Railroad tracks West – Manufacturing type building Northwest – Manufacturing type building
1958 1966	Developed with the current Site building	North – Large manufacturing type building and parking lot Northeast – Residential homes East – Large manufacturing type building complex South – Railroad tracks West – Manufacturing type building Northwest – Manufacturing type building
1970 1978 1983 1985 1995 2008 2011 2015	Developed with the current Site building	North – Large manufacturing type building and parking lot Northeast – Small building East – Large manufacturing type building complex South – Railroad tracks West – Manufacturing type building Northwest – Manufacturing type building
2019	Developed with the current Site building	North – Parking lot Northeast – Small building East – Large manufacturing type building complex South – Railroad tracks West – Manufacturing type building Northwest – Manufacturing type building

5.8.3 Street Directories

Street directories indicate that the Site was occupied by the following:

Year	Address	Occupant
1925-1992	637 and 643 Northland Avenue	Niagara Machine & Tool Works (Metal Fabricating Plant)

The adjacent properties were used for residential, commercial, and industrial purposes from 1925 until 2013, and included the following occupants of concern:

Northern adjacent property

Year	Address	Occupant
1975-1992	684 Northland Avenue	Niagara Machine & Tool Works parking lot

Eastern adjacent property

Year	Address	Occupant
1930-2001	681 Northland Avenue	Niagara Machine & Tool Works parking lot
1930-2001	683 Northland Avenue	Niagara Machine & Tool Works
2001		Clearing Niagara
2008-2013		Sweeney Steel Service Corporation
1964-1992	685 Northland Avenue	Niagara Machine & Tool Works parking lot
1950-1964	697 Northland Avenue	Niagara Machine & Tool Works

Western adjacent property

Year	Address	Occupant
1964	597 Northland Avenue	Sevens Frederick - division of Udylite Corporation
1970		Stevens Durez - division of Hooker Chemical Foundry Materials
1930-1940	601 Northland Avenue	Liquid Veneer Corporation (factory)
1946-1955		Houde Engineering Corporation (warehouse)
1960		Houdaille Industries Inc. (warehouse)
1980-1985		Neu-Lec Controls Inc. (maker of electric control panels)
1992-2001		Service Manufacturing Group Incorporated (tri-electric printed circuit boards/sheet metal work)

Northwest adjacent property

Year	Address	Occupant
1935-1955	608 Northland Avenue	Houdi Engineering Corporation

5.8.4 FOIL Responses

FOIL requests were sent to the NYSDEC, Erie County, and the City of Buffalo for information relative to the Site; however, no responses have been received as of the date of this report submission.

FOIL requests are provided in Appendix 6.

5.8.5 Other Historic Sources

Phase I ESA; Northland Avenue Properties, 631, 683, 741, and 777 Northland Avenue (Fisher Associates, October 2014, Revised January 2015)

RE&LS reviewed a Phase I ESA prepared by Fisher in 2014 for the Empire State Development Corporation. Fisher's Phase I ESA was conducted for the Site and three adjacent parcels, addressed as 683, 741 and 777 Northland Avenue. 683 Northland Avenue is referred to as the eastern adjacent property in this report. The report was prepared to evaluate whether current or historical activities on or near the subject property may have resulted in significant impacts by hazardous substances or petroleum products.

In their Phase I ESA, Fisher stated that the Site was formerly used as a machine and tool works facility. They observed an approximately 1,000-gallon AST on the western exterior of the Site building, and additional tanks were suspected to be present. Petroleum-based products and hazardous materials were observed on Site at the time of the reconnaissance.

Several RECs were identified in connection with the Northland Avenue Properties.

- There was potential for at least three (3) USTs of unknown size and contents to be present at the Site.
- One (1) approximately 1,000-gallon AST was observed on the western exterior of the Site building.
- Numerous 55-gallon drums containing xylene, antifreeze, hydraulic oil, motor oil, used oil and other contents were observed.
- The floors in the Site buildings are constructed of wooden block overlying concrete. The wooden blocks are stained from cutting oils, hydraulic oils, grease, and other possible petroleum products.
- Multiple piles of debris inside and outside of the Site building
- A Phase II ESA completed by Leader Professional Services, Inc. (Leader) in 2005 for the northeastern adjacent property, addressed as 644 Northland Avenue, and the eastern adjacent property, addressed as 683 Northland Avenue indicated that exceedances of NYSDEC SCOs from on-site sources were detected in subsurface samples and pit water samples.

Based on their findings, Fisher recommended performing a Phase II ESA to determine the extent of the contamination present at these properties.

Phase II ESA; 631, 683, 741, and 777 Northland Avenue (Fisher Associates, September 2015)

The Phase II ESA was performed in May and June 2015 to address the RECs discussed above. Soil samples were collected across the four parcels, including 631 Northland Avenue. Samples of surface liquids and solids were collected from wood block flooring, the sand pit, the furnace pit, and the sump within the 631 Northland Avenue building. A groundwater sample was collected from a monitoring well (MW-1) installed at the southeastern corner of 631 Northland Avenue.

The results of the Phase II ESA indicate detections of metals and PCBs within the wood block flooring and sand pit. Soil borings near the south end of the Site building and southeastern portion of the Site had detections of SVOCs and metals in exceedance of the NYCRR Part 375-6 Commercial and Industrial Use SCOs.

Groundwater limitations for TCE and other cVOCs were exceeded in samples collected from monitor wells installed on the eastern adjacent properties; however, these analytes were not detected in on-site monitoring well, MW-1.

5.8.6 Data Failure

FOIL responses from the NYSDEC, Erie County, and the City of Buffalo have not been received as of the date of this report. However, RE&LS does not consider this to be significant due to the historic use information obtained from the available historical documentation and from Fisher's Phase I and Phase II ESAs. It is not likely that additional information that may be forthcoming from these agencies would change the conclusions or opinions of this report.

The lack of FOIL responses is not considered to be a significant data gap. RE&LS reserves the right to revise this report based upon any pertinent information concerning the subject property that may be forthcoming from these agencies.

6.0 INTERVIEWS

6.1 Interview with Angelo Rhodes, BUDC Representative

According to Mr. Rhodes, the Site building was constructed in 1953 in association with the Niagara Machine & Tool metal fabricating plant located on the eastern adjacent property at 683 Northland Avenue, and was operated under the name Clearing Niagara. BUDC purchased the Site in 2014. He has no knowledge of any environmental liens or activity and use limitations at the Site. He had no information regarding the contents of the AST, the floor drain and sump discharge locations, or the contents of the abandoned drums inside the Site building.

6.2 Interview with Property Manager/Broker, Tom Mancuso

According to Mr. Mancuso, the Site has been vacant since the metal fabricating operations ceased in 1992. He stated that the Site building was heated with steam generated from boilers located at 683 Northland Avenue. He had no information regarding the contents of the AST, floor drain and sump discharge locations, or the contents of the abandoned drums inside the Site building.

6.3 Interviews with Occupants

N/A

6.4 Interviews with Local Government Officials

RE&LS interviewed the City of Buffalo Chief Plumbing Inspector, Keith Ogden, regarding the floor drains and catch basins on the Site. He stated that, based on the age of the building, floor drains, sumps and catch basins discharge to the public sewer system.

6.5 Interviews with Others

None

7.0 BUSINESS ENVIRONMENTAL RISKS (BER)

A Business Environmental Risk (BER) is defined by ASTM E1527-21 as *A risk which can have a material environmental or environmentally-driven impact on the business associated with the current planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice.*

ASTM E1527-21 states that the following BERs are "non-scope considerations that persons may want to assess in connection with commercial real estate." This list of non-scope considerations is not intended to be all-inclusive.

7.1 Radon

Radon, a naturally occurring, odorless, colorless, radioactive gas, is found throughout the country. Prolonged exposure to elevated indoor radon levels has been associated with increased risks of lung cancer.

NYSDOH conducted a basement radon survey across New York State. According to the results provided in the EDR Radius Map Report, an average level of 1.18 picocuries per liter of radon (pCi/L) was measured in the City of Buffalo. The USEPA has determined an annual average exposure of 4.0 pCi/L as a guidance level for corrective action.

Based on the above, radon does not appear to be of concern in the Site area. The actual indoor radon level can only be determined through sampling and analysis, not included in the scope of this Phase I ESA.

7.2 Hazardous Materials Inspection

RE&LS conducted a Hazardous Materials Inspection of the Site building to identify the presence of ACM, LBP, and materials containing PCBs. The findings of the Hazardous Materials Survey will be submitted under separate cover.

7.3 Wetlands

There are no mapped New York State (NYS) freshwater wetlands or National Wetland Inventory (NWI) wetlands on or adjacent to the Site.

8.0 FINDINGS AND OPINIONS

The Site was reportedly developed in 1953 in association with the Niagara Machine & Tool plant located on the eastern adjacent property at 683 Northland Avenue. It was operated as a metal fabricating plant under the name Clearing Niagara, and has been vacant since operations ceased in 1992.

Site Reconnaissance Findings

During the Site inspection conducted on February 1, 2024, the Site building was observed to be a large, vacant industrial building used for storing construction building materials. Notable features of the building include furnaces for metal fabrication, a sandblaster, several overhead cranes, and a railroad spur. Historic use of the Site for manufacturing dating back to 1950 is a REC.

The Site reconnaissance identified numerous RECs in connections with the Site. Several drums, oil staining on the wood block flooring, an apparent manhole with a welded cover, an AST (contents unknown), at least one (1) floor drain, and a sump were observed in the Site building.

Historical Documentation and Records Review Findings

A review of available historic documentation, including Sanborn maps, aerial photographs, and street directories indicate that the Site and adjacent properties were historically utilized for manufacturing of machinery and sheet metal, household and automotive polish, liquid and cement, electric control panels, and/or printed circuit boards. Several adjacent properties of concern were identified.

Vibratech, Inc. Site (formerly Houdaille Industries)

This facility is located on the northern adjacent property at 537 East Delvan Avenue, and was historically used for manufacturing dating back to 1927. It is identified on the SEMS, SHWS, and Vapor Reopened databases. Operations included degreaser use and storage with several 10,000 to 12,000-gallon USTs and ASTs, and an open hole bedrock well that was potentially used for disposal. Contaminants of concern at this facility include petroleum products, and TCE and other cVOCs.

Western NY Workforce Training Center

This facility is located on the eastern adjacent property addressed as 665 & 683 Northland Avenue, and is identified on the NY Brownfields database. The property was historically used as a machine and tool works facility beginning in 1911, and used hydraulic, electrical, and industrial equipment that led to the contamination of the property. The contamination included SVOCs, PCBs, metals in soil, and TCE in soil vapor. Hydraulic oil was found to be present in bedrock.

683 Northland Avenue is also identified on the Manifest database as EPA ID NYR000232587. The listing indicates that 35,776 kilograms of PCB wastes, including contaminated soil, solids, sludges, clothing, rags and dredge material were generated and transported off-site to a landfill for disposal in 2017.

Remedial actions have successfully achieved SCOs for Commercial use. However, residual contamination remains in soil, bedrock, and soil vapor, and the property is being managed under a SMP. As the use of the property is restricted by the SMP, the residual contamination is considered a CREC as defined in Section 1.1 of this report. Soil, groundwater and soil vapor at the Site have the potential to be negatively impacted from historic operations at this property.

Phase II ESA; 631, 683, 741, and 777 Northland Avenue (Fisher Associates, September 2015)

RE&LS reviewed Fisher's Phase II ESA conducted in 2015. The results of this Phase II ESA indicate SVOC and metal contamination exceeding NYCRR Part 375-6 Commercial and Industrial Use Soil Cleanup Objectives is present in soil at the south end of the Site building and southeastern portion of the Site. PCBs were detected in samples collected from wood block flooring.

9.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E l527-21 for the property located at 631 Northland Avenue in the City of Buffalo, New York. Any exceptions to, or deletions from, this practice are described in Section 11 of this report. This assessment has revealed no RECs, CRECs, or significant data gaps in connection with the Site **except for the following:**

1. Historic usage of the Site for metal fabricating, and the potential of releases of cutting oils, hydraulic oils, other petroleum products, and degreasing agents
2. Analytical data from a 2015 Phase II ESA investigation identifying hazardous concentrations of SVOCs in soil
3. Floor drains and a sump in the Site building, and the associated potential for improper disposal of degreasers and other contaminants
4. A railroad spur on the Site and the potential for petroleum and chemical spills during the transfer of shipments
5. The potential for petroleum releases in association with the AST present on the Site, and the potential for unidentified orphan USTs to be present on the Site
6. The potential for groundwater and soil vapor impacts at the Site from historic industrial uses of the adjacent properties, specifically in association with the CREC on the eastern adjacent property and the former Houdaille Industries facility on the northern adjacent property

10.0 ADDITIONAL INVESTIGATION AND RECOMMENDATIONS

Based on this Phase I ESA, additional investigation is warranted. We recommend performing a Phase II ESA/Site Characterization Investigation to evaluate the extent of contamination identified in Fisher's Phase II ESA and unidentified contamination at the Site.

11.0 DEVIATIONS

This report is prepared with no significant deviations from ASTM Standard E1527-21. No title documents were provided for review when this Phase I ESA was prepared. We recommend that an attorney determine that there are no environmental liens or deed restrictions in the Abstract of Title.

12.0 DISCLAIMER

RE&LS represents only that it provides services in accordance with generally accepted practices in the environmental audit field. No other representation, expressed or implied, is included or intended as part of its services, proposals, contracts or reports.

RE&LS cannot provide guarantees, certifications or warranties that the property is or is not free of environmental impairment without a Phase II ESA involving collection and laboratory analysis of environmental samples. Even with such a program, the data and samples from any given soil boring or monitoring well will indicate conditions that apply only at that particular location, and such conditions may not necessarily apply to the general Site as a whole.

13.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

One of the requirements of ASTM E1527-21 is that qualified Environmental Professionals (EP) work on the Phase I ESA and certify the findings and conclusions, therein. The EP must be knowledgeable, qualified and sufficiently experienced to conduct this type of investigation; certification, licensing, education and/or relevant experience are required.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in EPA 40 CFR Part 312.10.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the "all appropriate inquiries" in conformance with the standards and practices set forth in EPA 40 CFR Part 312.

14.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

This Phase I ESA Report is certified to be prepared in general accordance with sound environmental practices and in conformance with the scope and limitations of ASTM Practice E1527-21.

Sincerely,



Whitney McAlpin
Environmental Scientist



Lynn Zicari
Sr. Environmental Scientist



Benjamin Reddy
Environmental Department Manager

15.0 REFERENCES

ASTM International. 2013. *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Document Designation E1527-21. West Conshohocken, Pennsylvania.

Environmental Data Services, Inc. *Radius Map Report™ with GeoCheck®:* 631 Northland Avenue, Buffalo, New York, 14211. January 30, 2024.

Environmental Data Services, Inc. *Certified Sanborn® Map Report:* 631 Northland Avenue, Buffalo, New York, 14211. January 31, 2024.

Environmental Data Services, Inc. *The EDR City Directory Package:* 631 Northland Avenue, Buffalo, New York, 14211. February, 2024.

Environmental Data Services, Inc. *Aerial Photographs:* 631 Northland Avenue, Buffalo, New York, 14211. January 31, 2024.

Phase I ESA – Northland Avenue Properties, 631, 683, 741, & 777 Northland Avenue, Buffalo, NY 14211. October 2014, Revised January 2015.

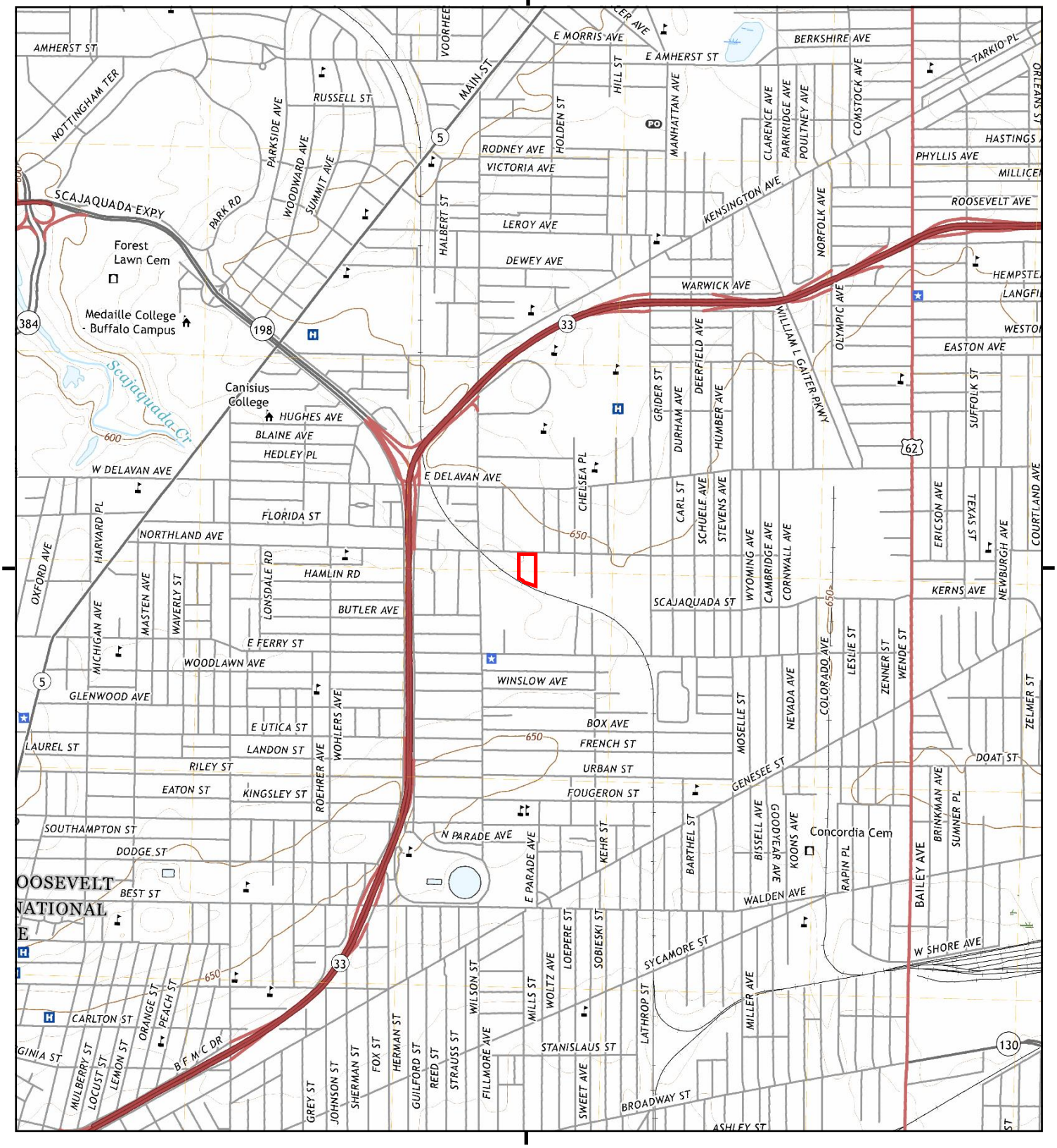
Phase II ESA - Northland Avenue Properties, 631, 683, 741, & 777 Northland Avenue, Buffalo, NY 14211. Fisher Associates. September 2015.

APPENDIX 1

Maps

Historical Topo Map

2019



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

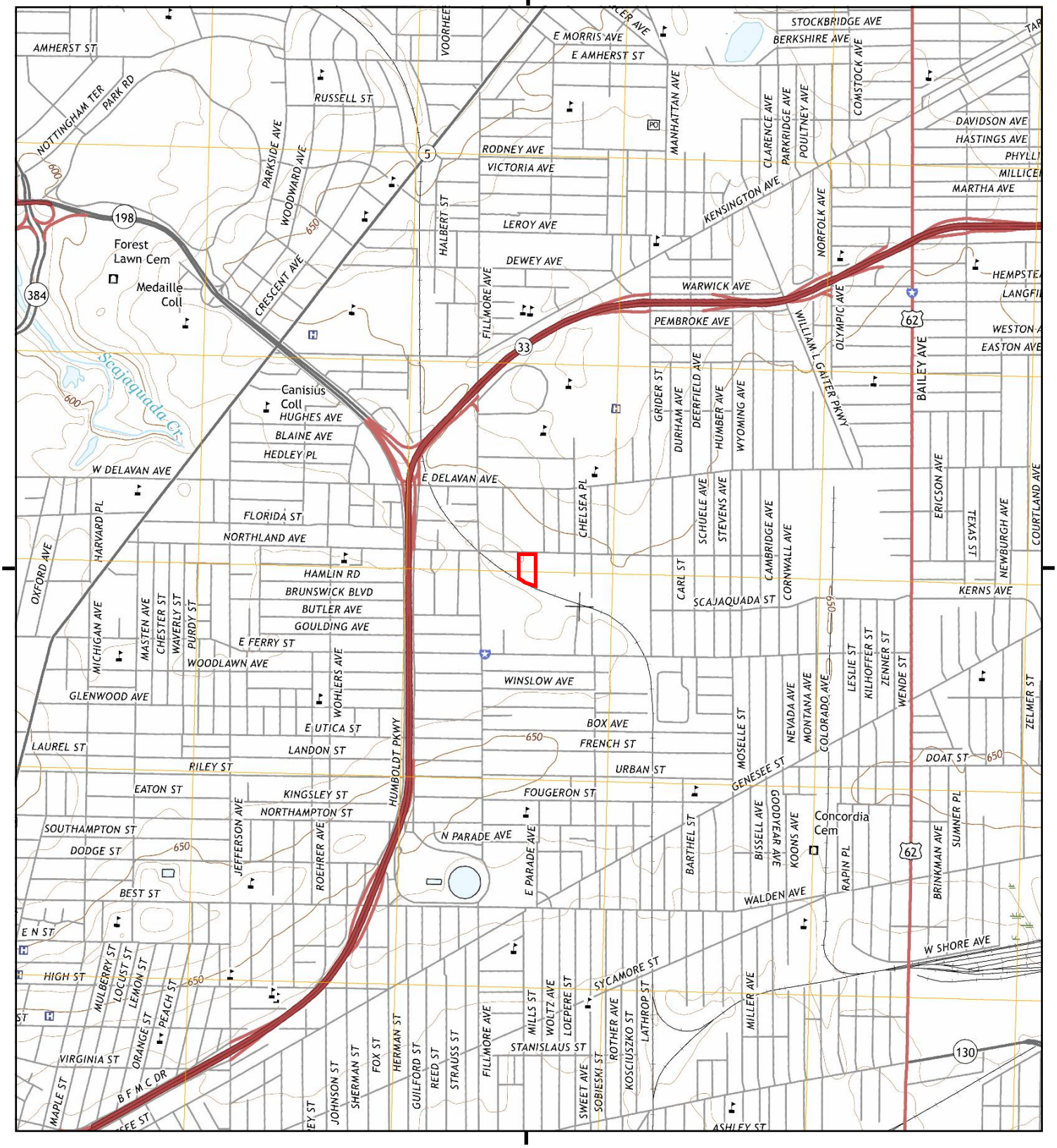
TP, Buffalo NE, 2019, 7.5-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N

Historical Topo Map

2016



This report includes information from the following map sheet(s).

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W E
SW S SE

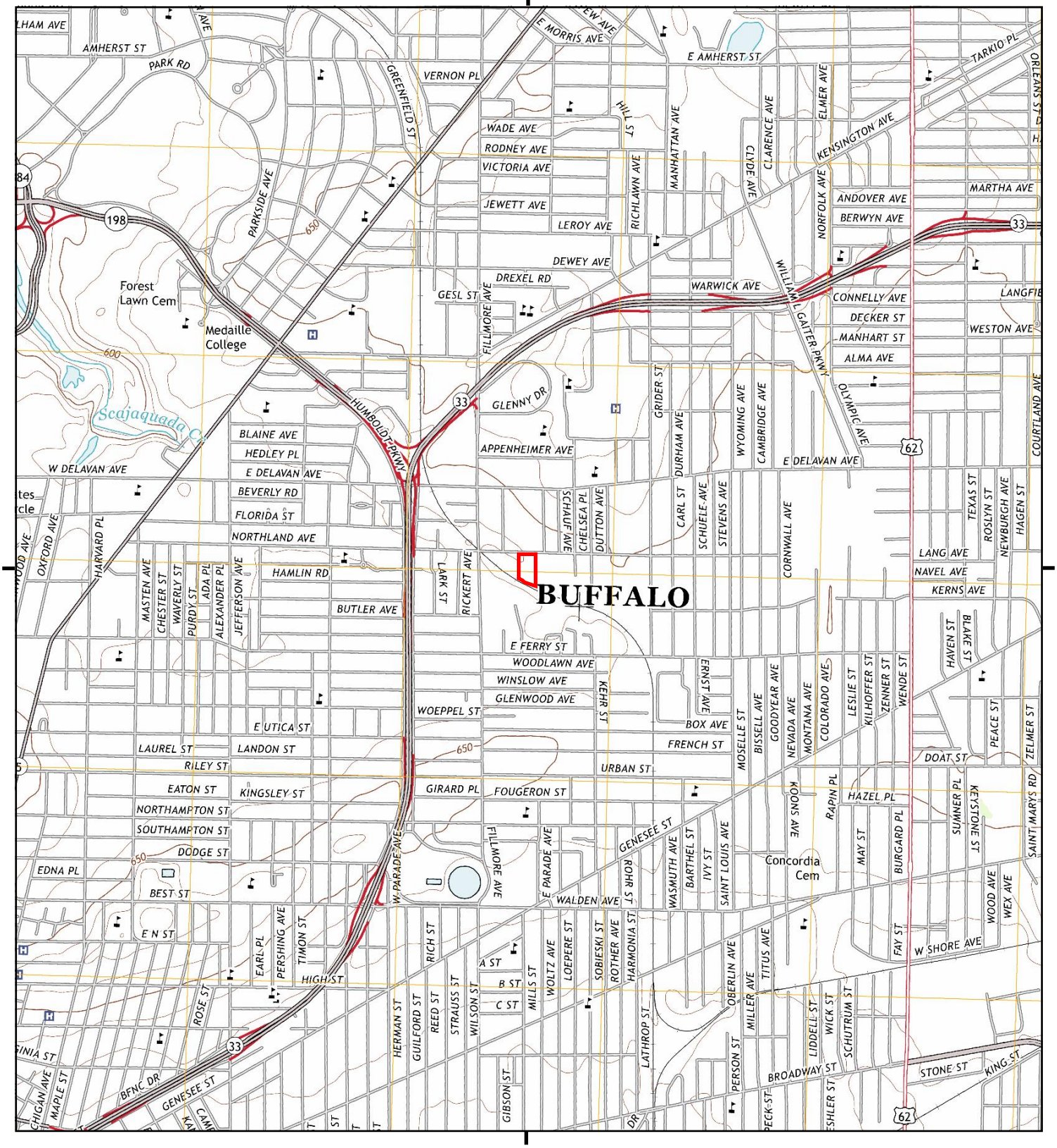
TP, Buffalo NE, 2016, 7.5-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N

Historical Topo Map

2013



This report includes information from the following map sheet(s).

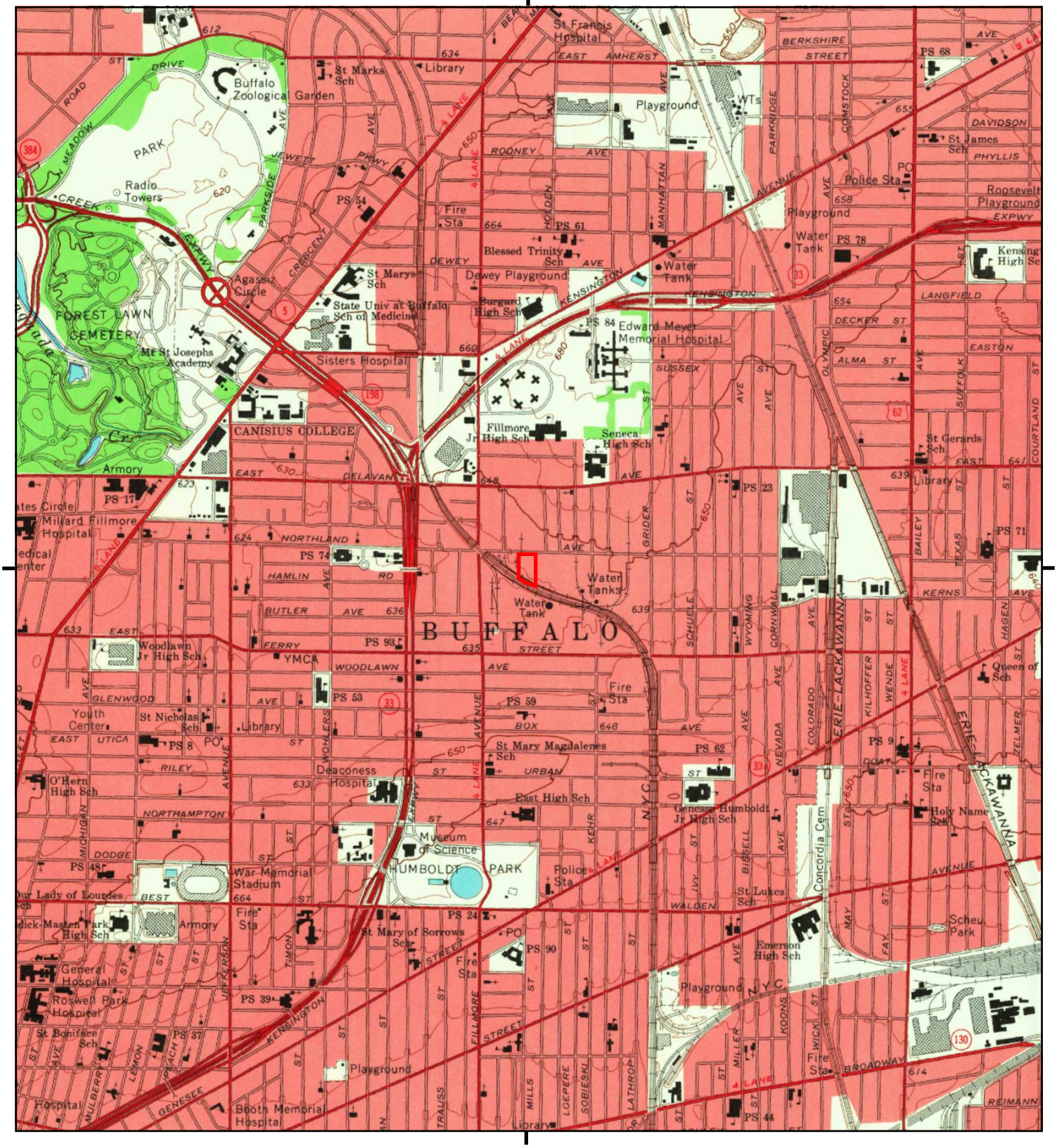
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W E
SW S SE

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ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N



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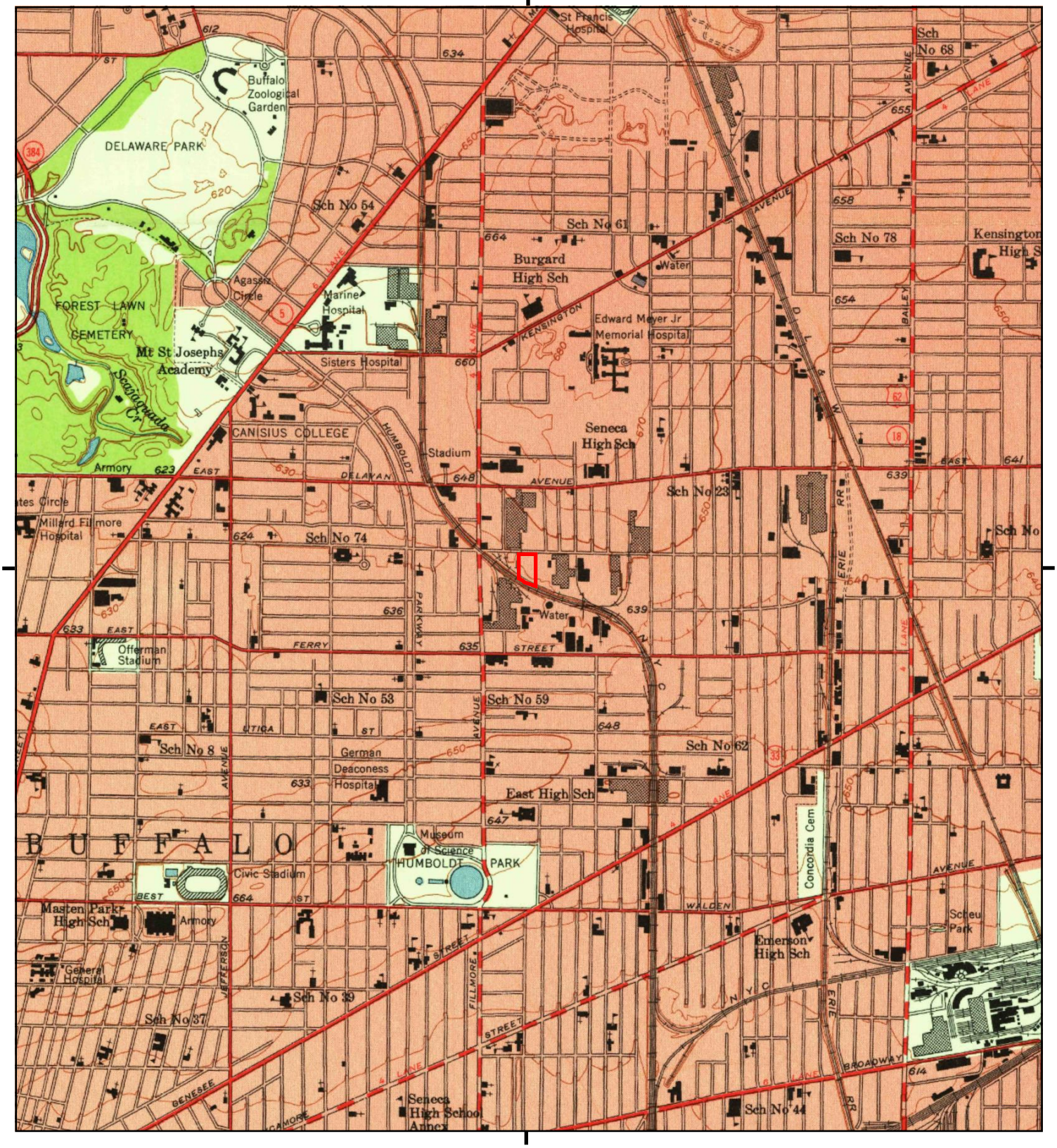
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Buffalo NE, 1965, 7.5-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N



This report includes information from the following map sheet(s).

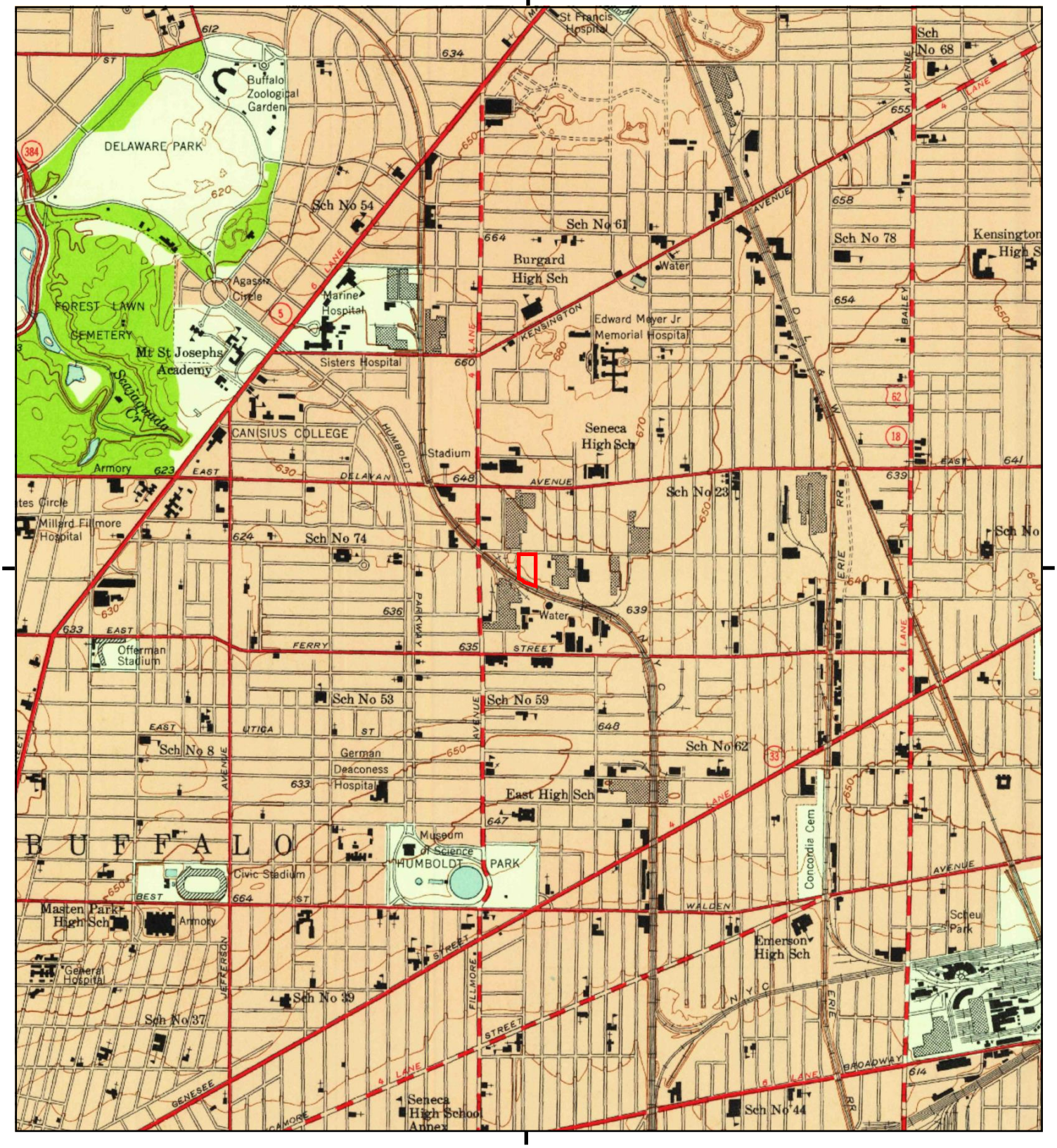
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NW N NE
W E
SW S SE

TP, Buffalo NE, 1950, 7.5-minute
TP, BUFFALO VICINITY 1 OF 2, 1950, 7.5-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

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W E
SW S SE

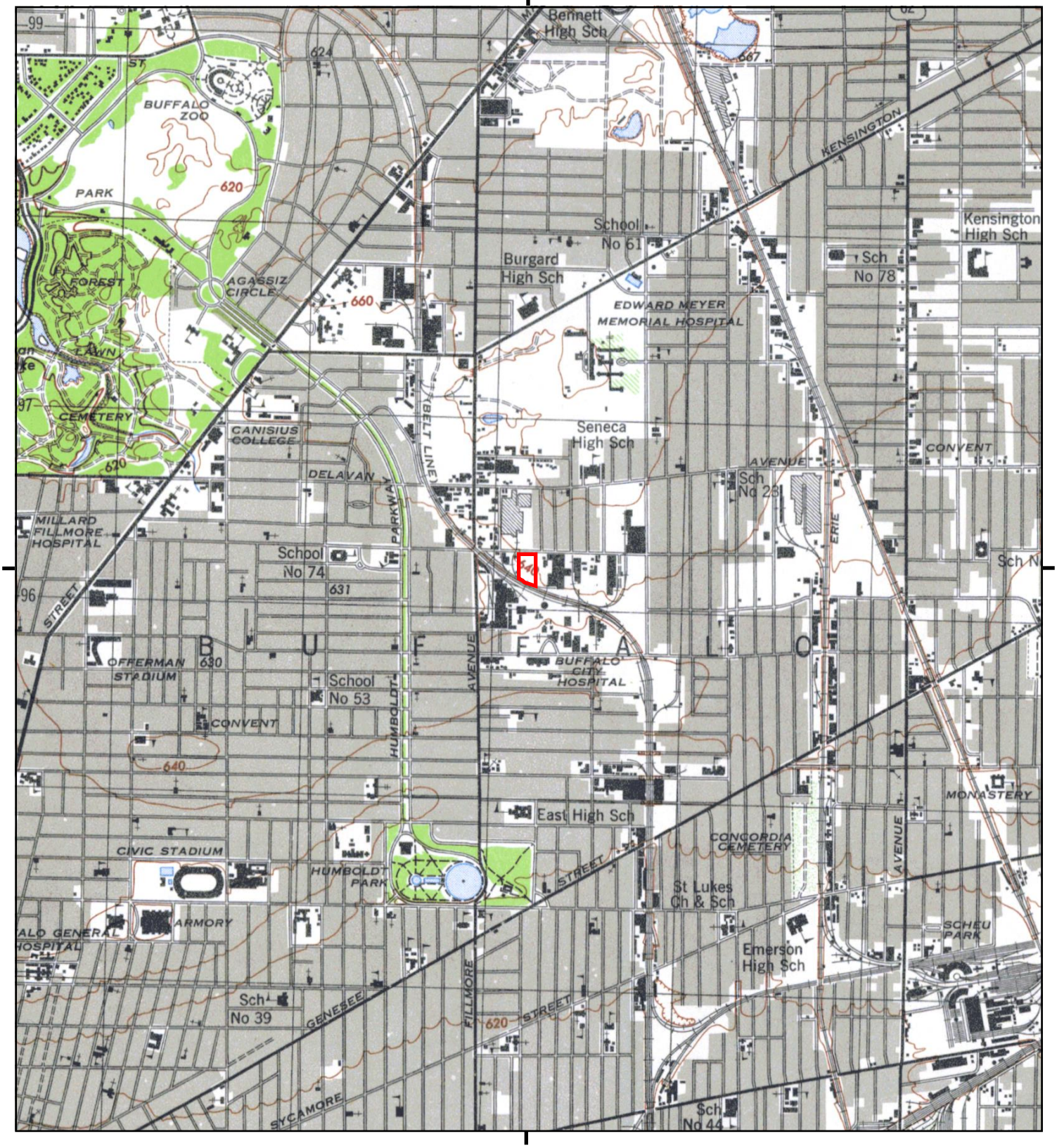
TP, Buffalo NE, 1948, 7.5-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N

Historical Topo Map

1946



This report includes information from the following map sheet(s).

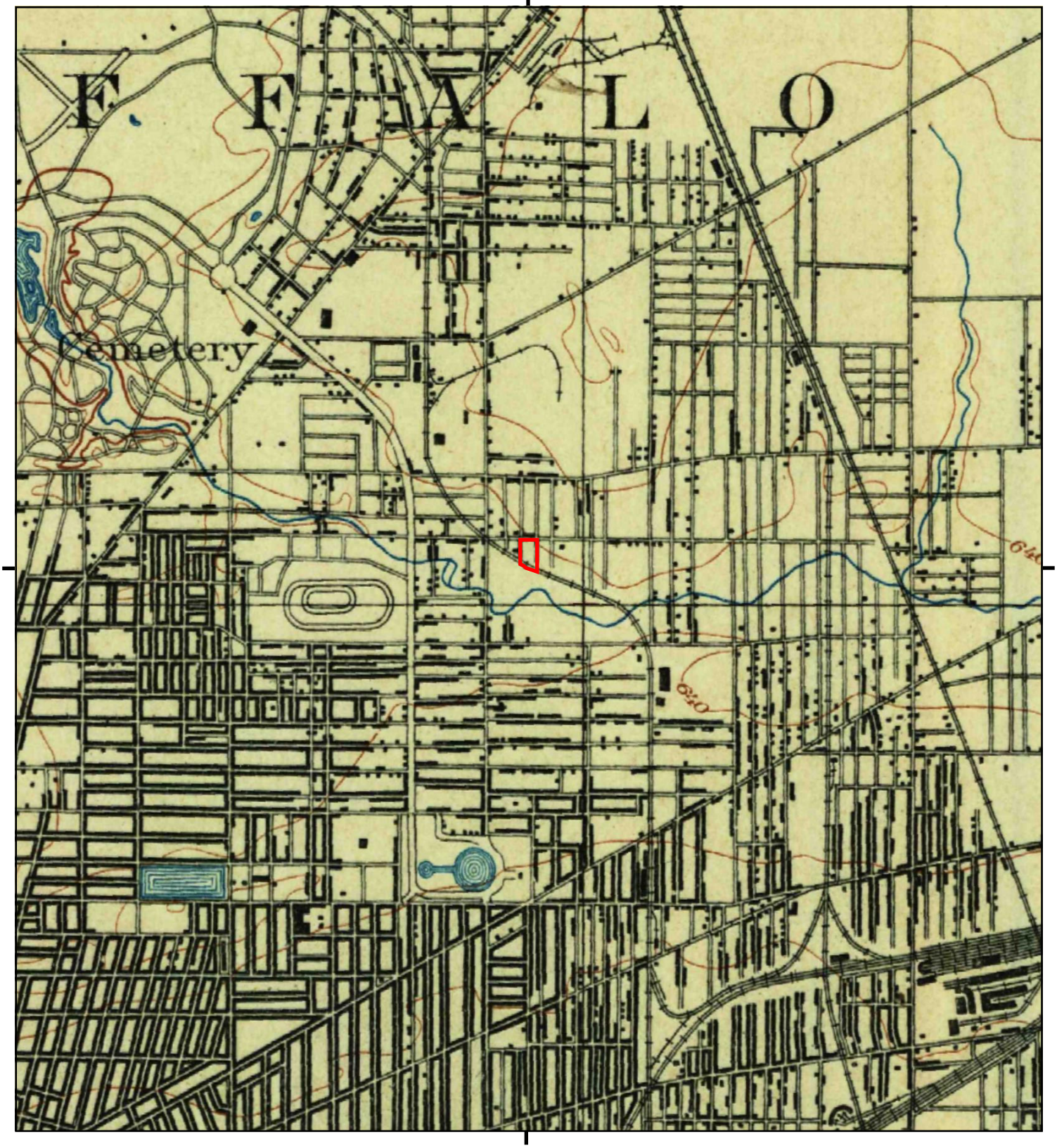
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NW N NE
W E
SW S SE

TP, BUFFALO NE, 1946, 7.5-minute

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ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N



This report includes information from the following map sheet(s).

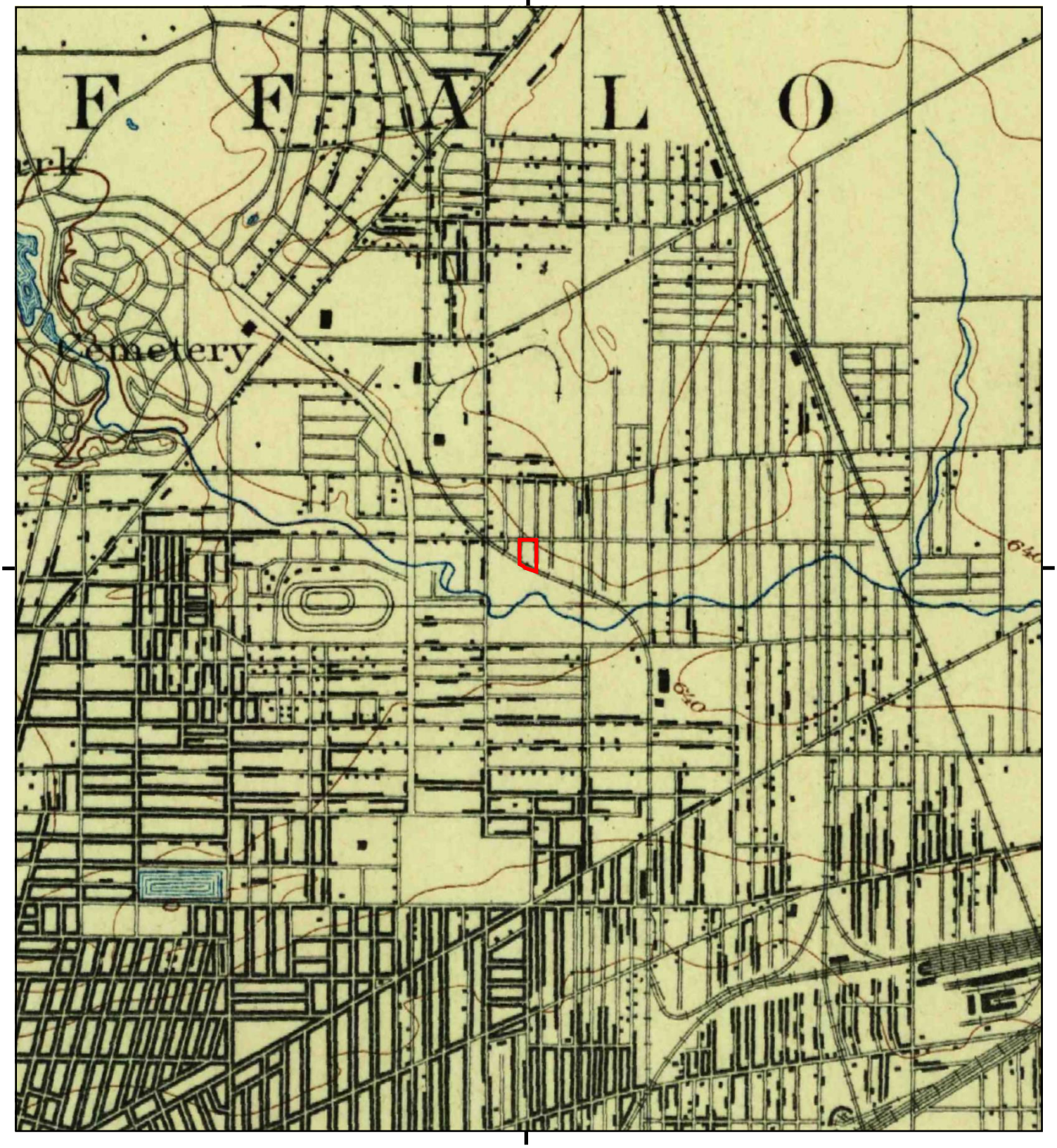
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Buffalo, 1901, 15-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Buffalo, 1894, 15-minute

SITE NAME: 631 Northland Avenue
ADDRESS: 631 Northland Avenue
Buffalo, NY 14211
CLIENT: Ravi Engineering & Land Surveying, P.C.

N

APPENDIX 2

Site Photographs



Northern side of the Subject building



Eastern side of the Subject building looking northwest



Monitoring well and storm drain on the eastern portion of the Site



Eastern side of the Subject building looking north



Parking lot on the eastern portion of the Site



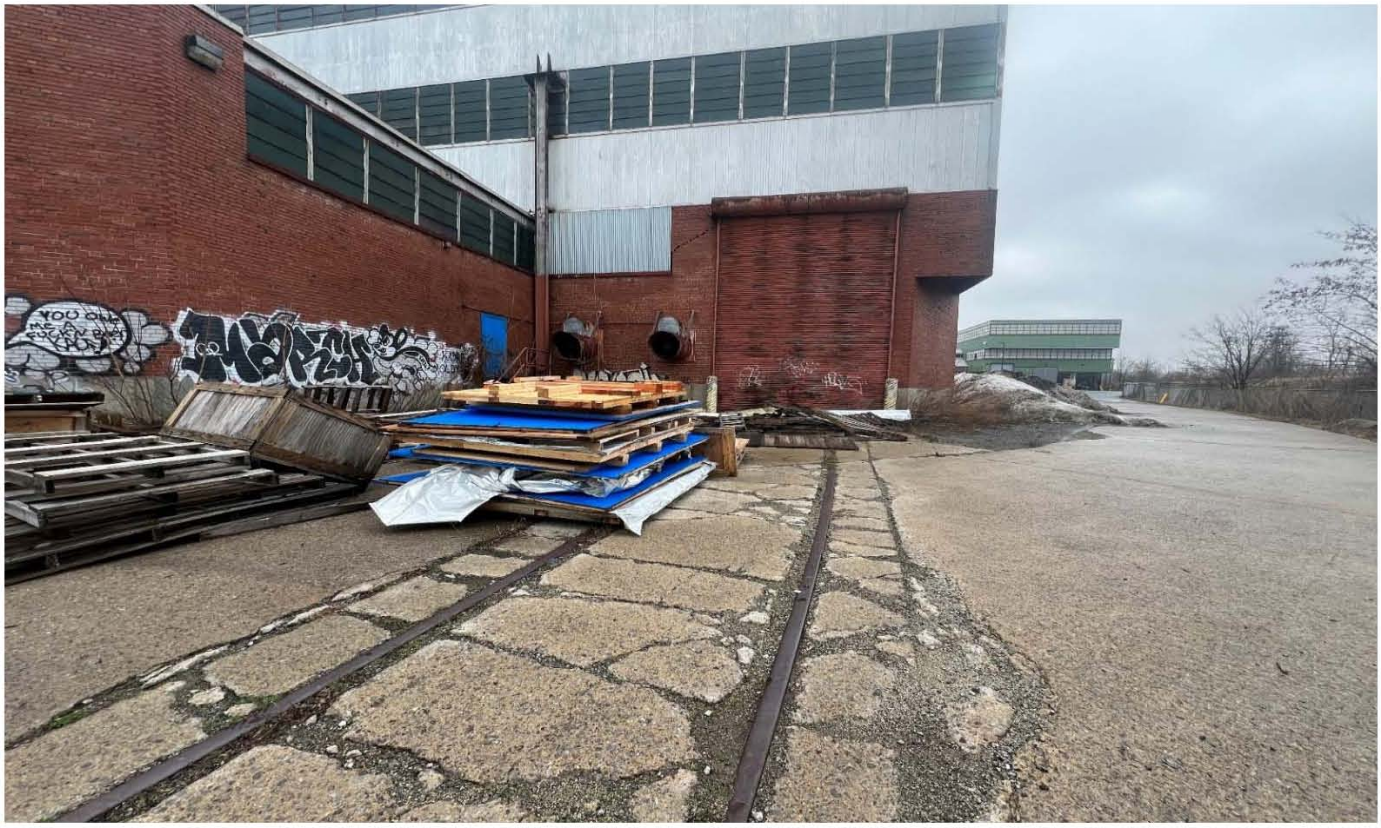
Pad-mounted transformer on the northeastern corner of the Site



Southern side of the subject building



Monitoring well on the southern portion of the Site looking east



Western side of the subject building looking east, including railroad tracks



Solid waste on the western portion of the Site



Western side of the subject building looking north



Rusted, unlabeled 55-gallon drum on the western subject boundary



Western central side of the subject building looking north



Aboveground storage tank (AST) and dust collector on the western portion of the subject building



Blast furnace on the western portion of the subject building



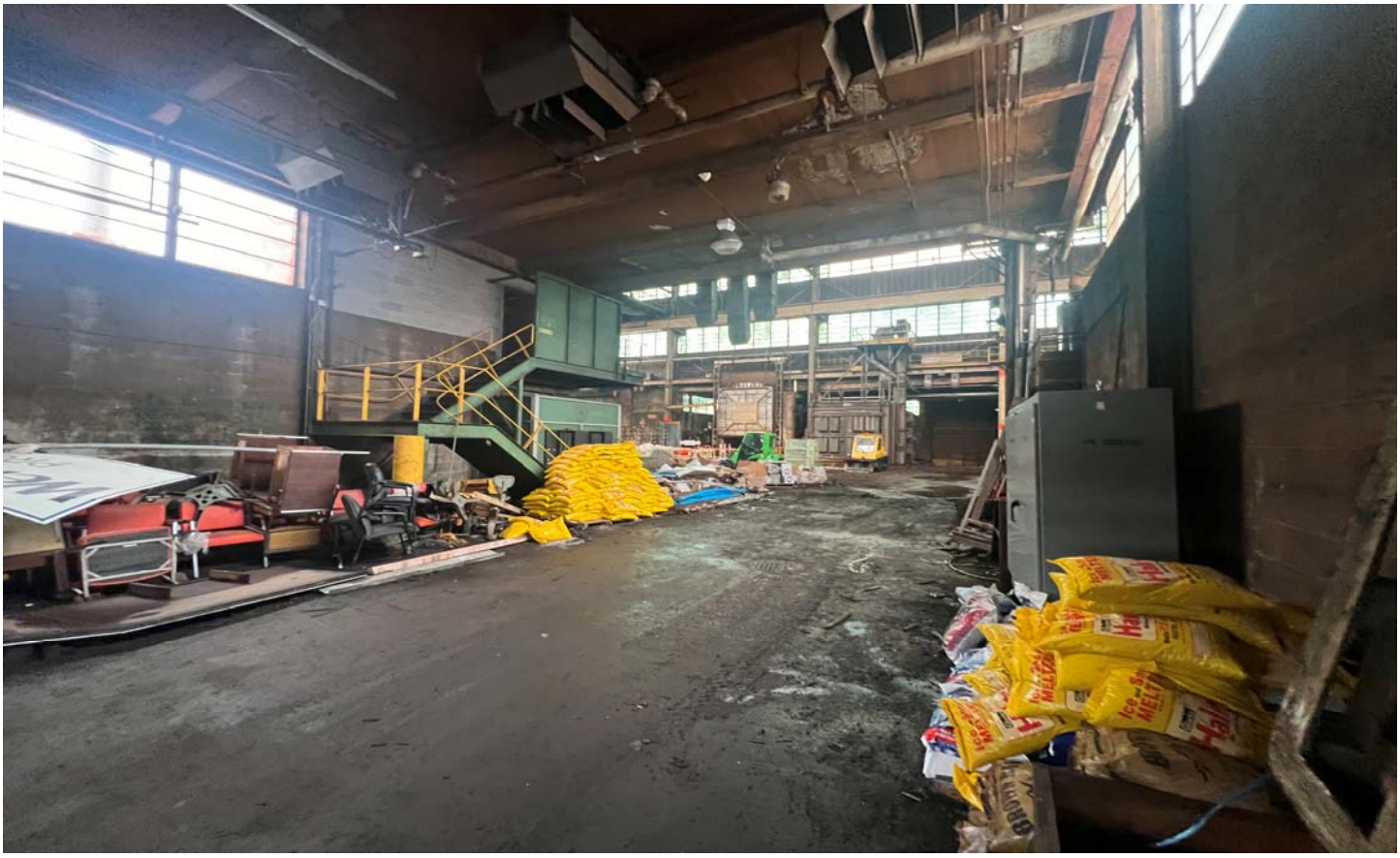
Manhole covers on the western portion of the Site



Western side of the subject building looking southeast



Fenced in concrete slab on the northwestern corner of the Site



Eastern entrance of the subject building



Floor drain near the eastern entrance of the subject building



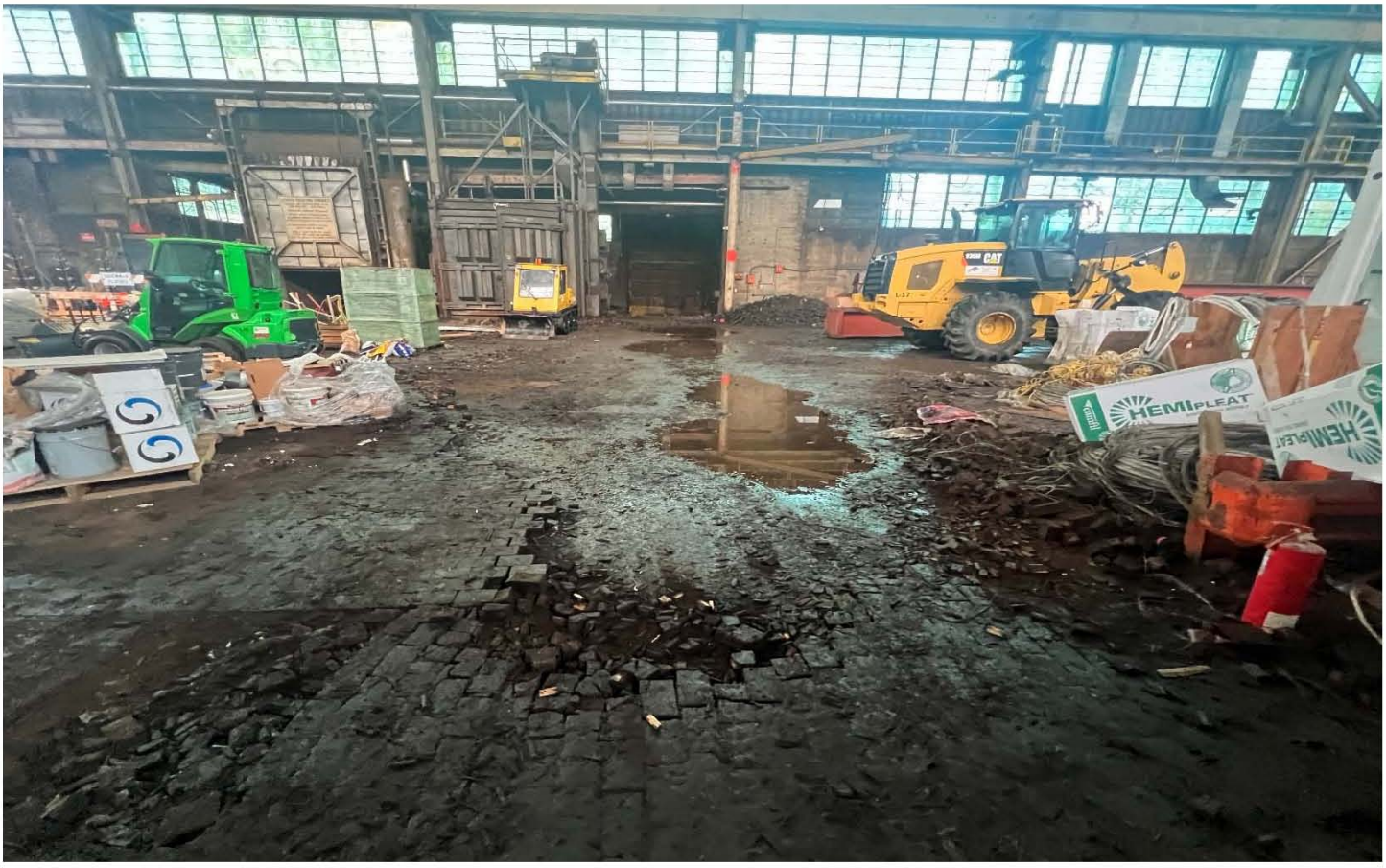
Storage and women's locker and restroom access at the eastern entrance of the subject building looking south



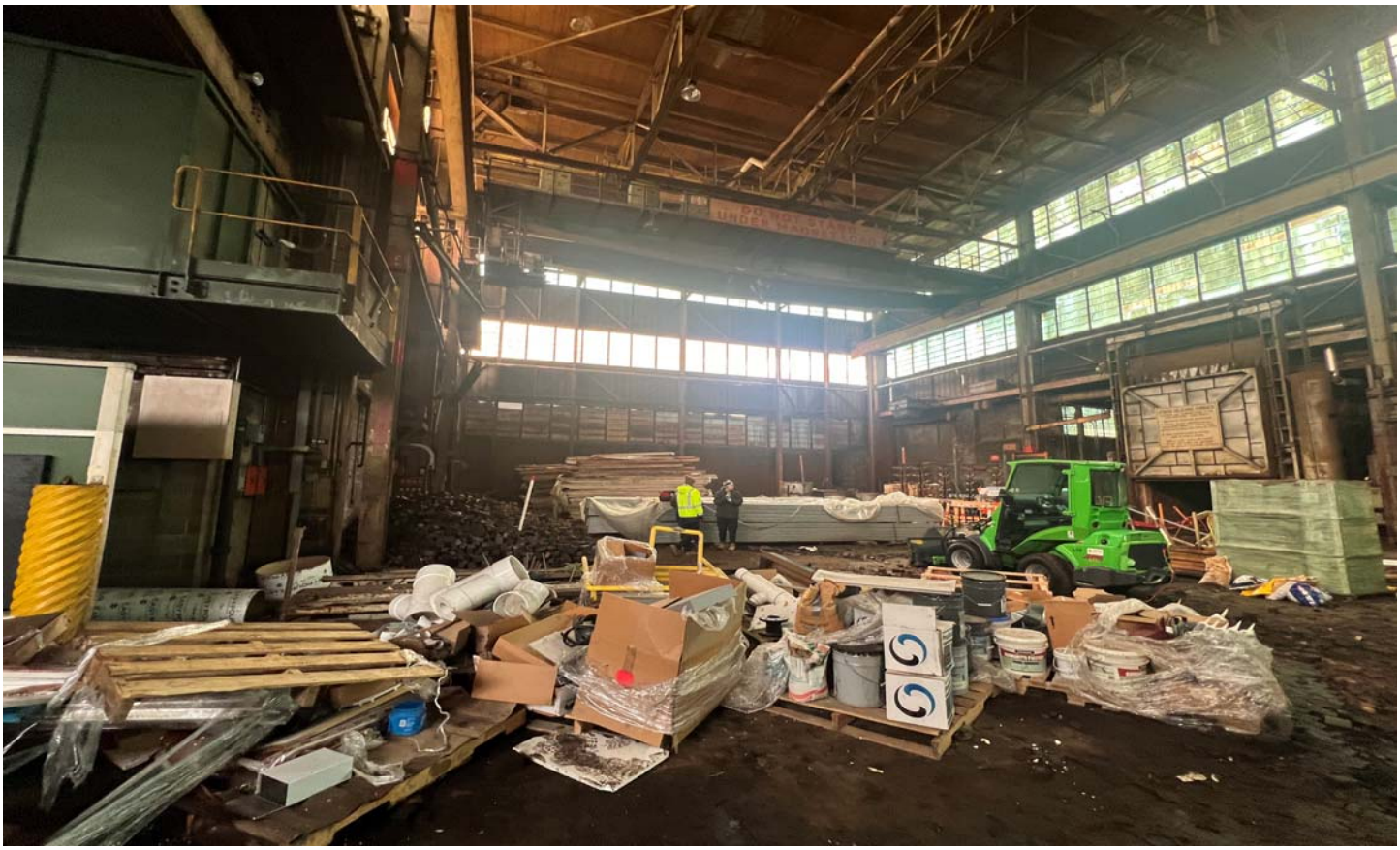
Women's locker room



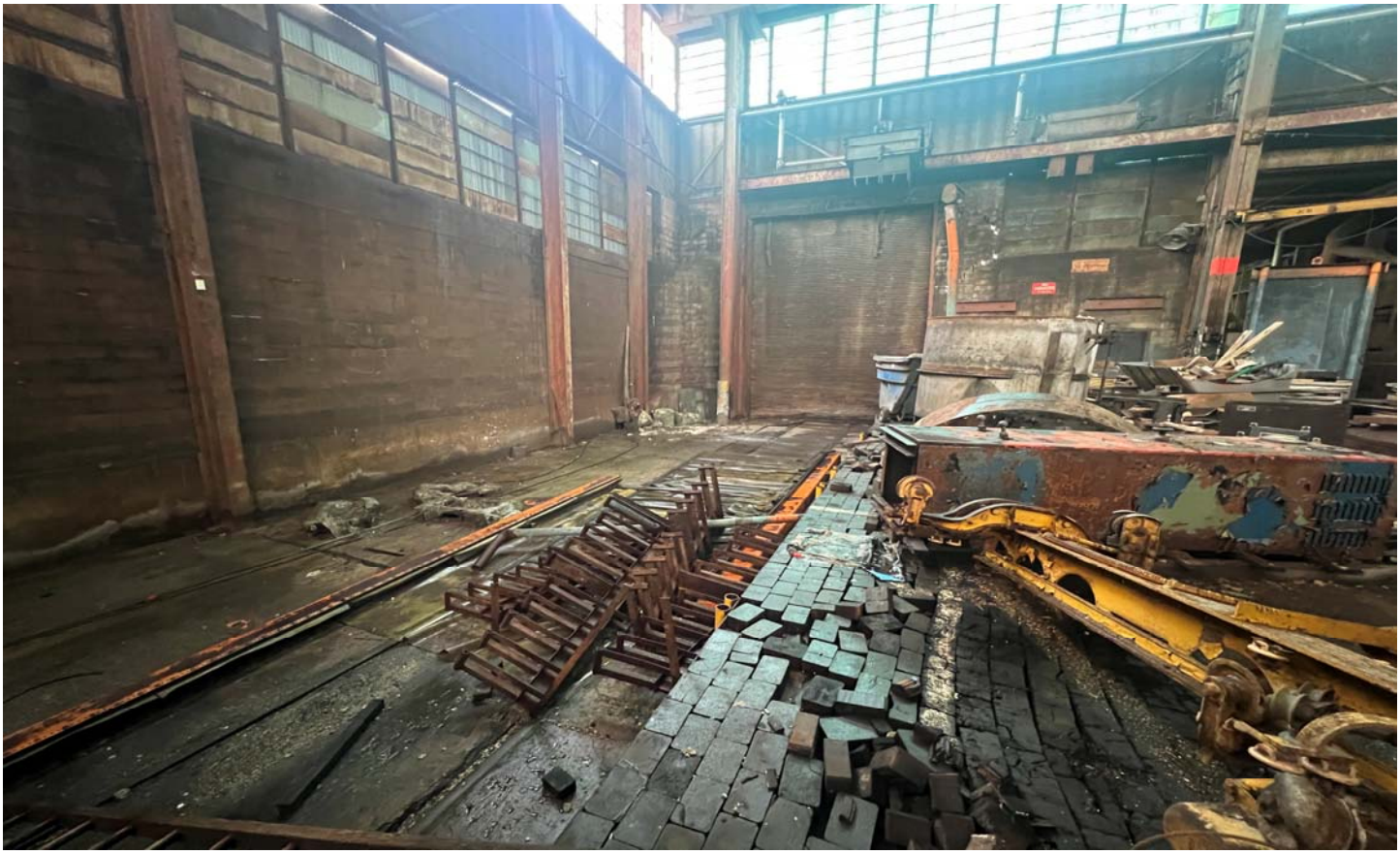
Women's restroom



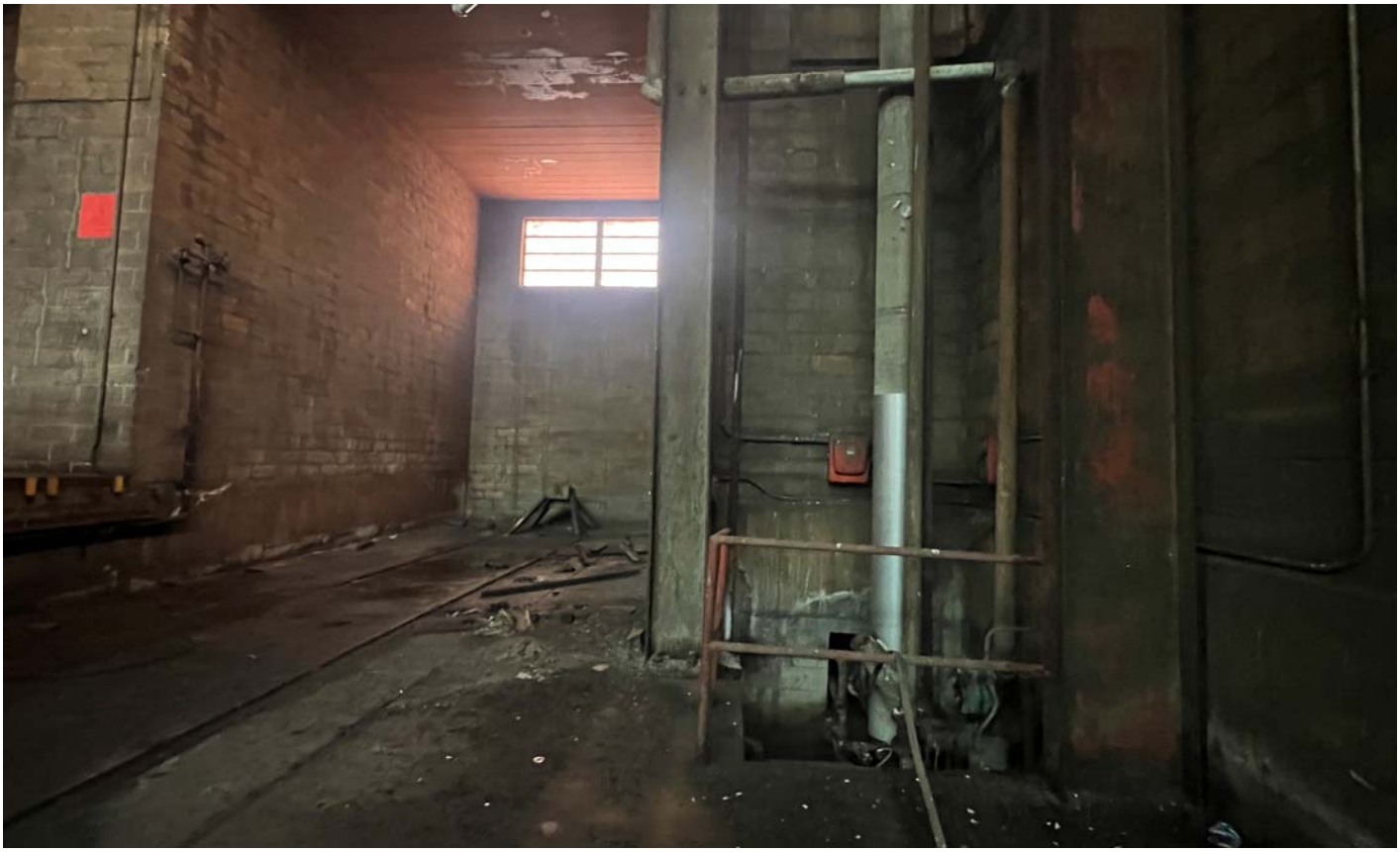
Interior of the Subject building from the eastern entrance looking west



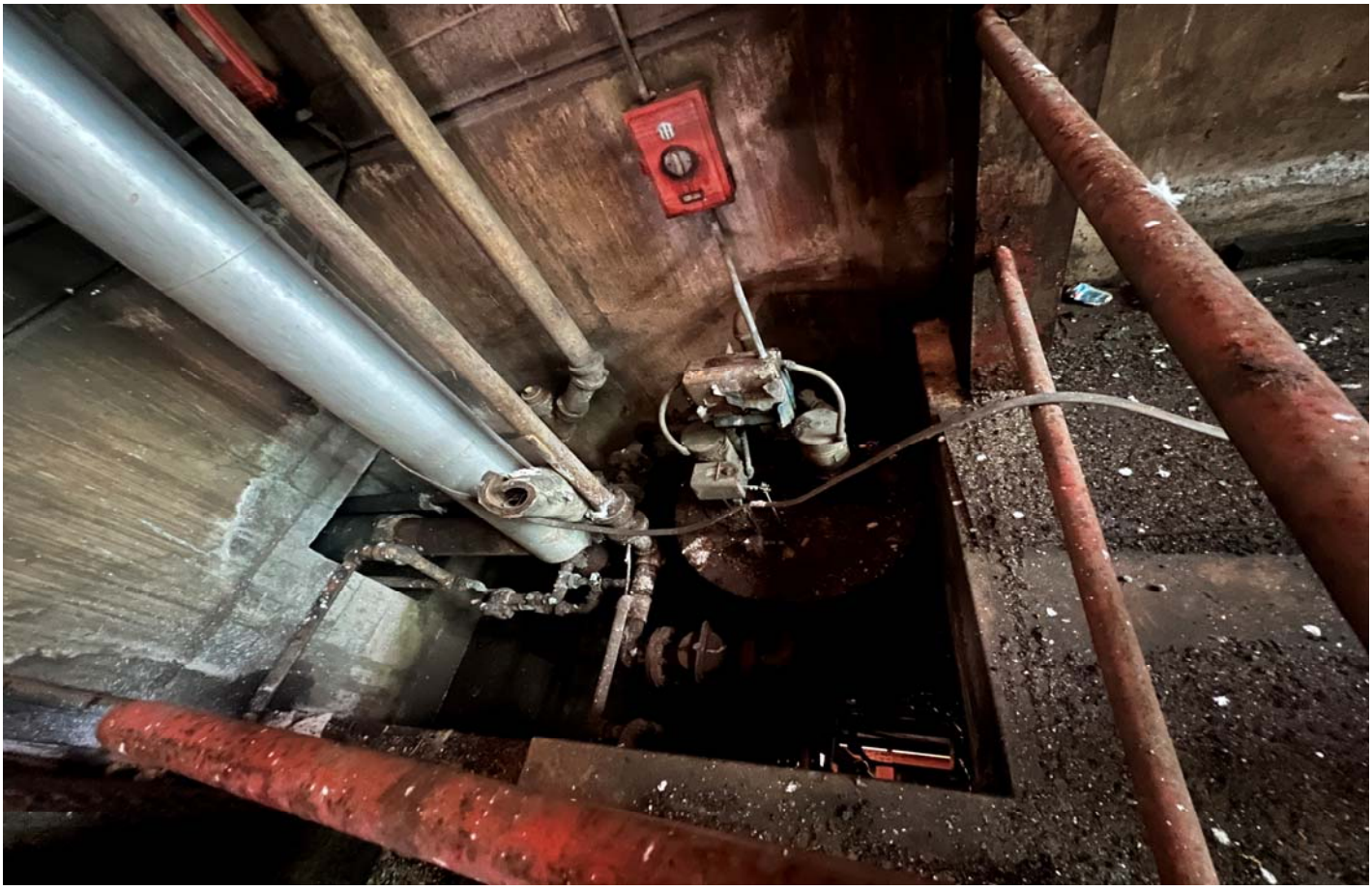
Interior of the subject building looking south



Railroad tracks and overhead door in the southern portion of the subject building



Sump pump near the railroad tracks in the southern portion of the subject building



Interior of the sump pump



Decommissioned machinery in the southern portion of the subject building



Stress-relieving furnace in the western portion of the subject building



Interior of the furnace



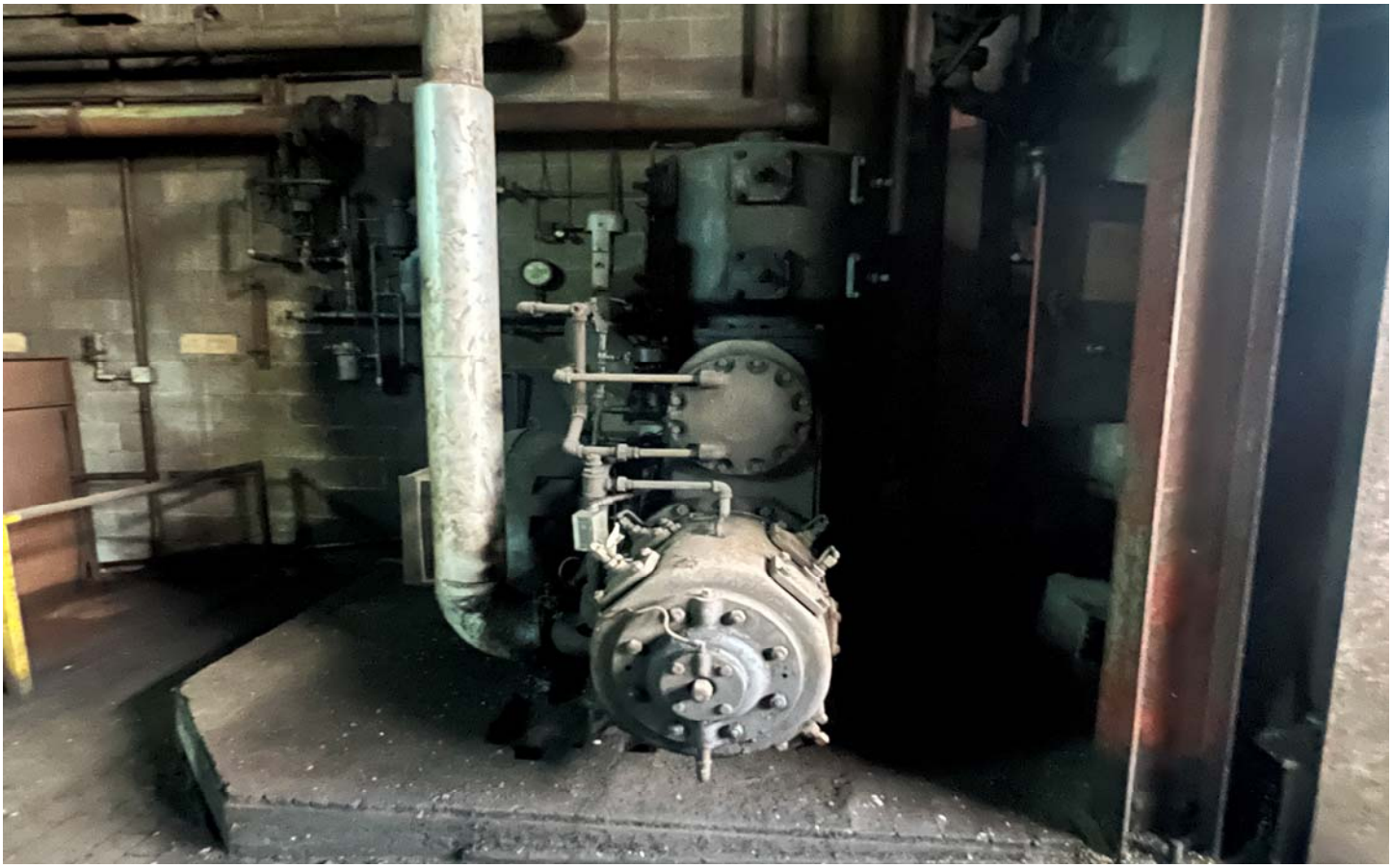
Rotoblast sander in the western portion of the subject building



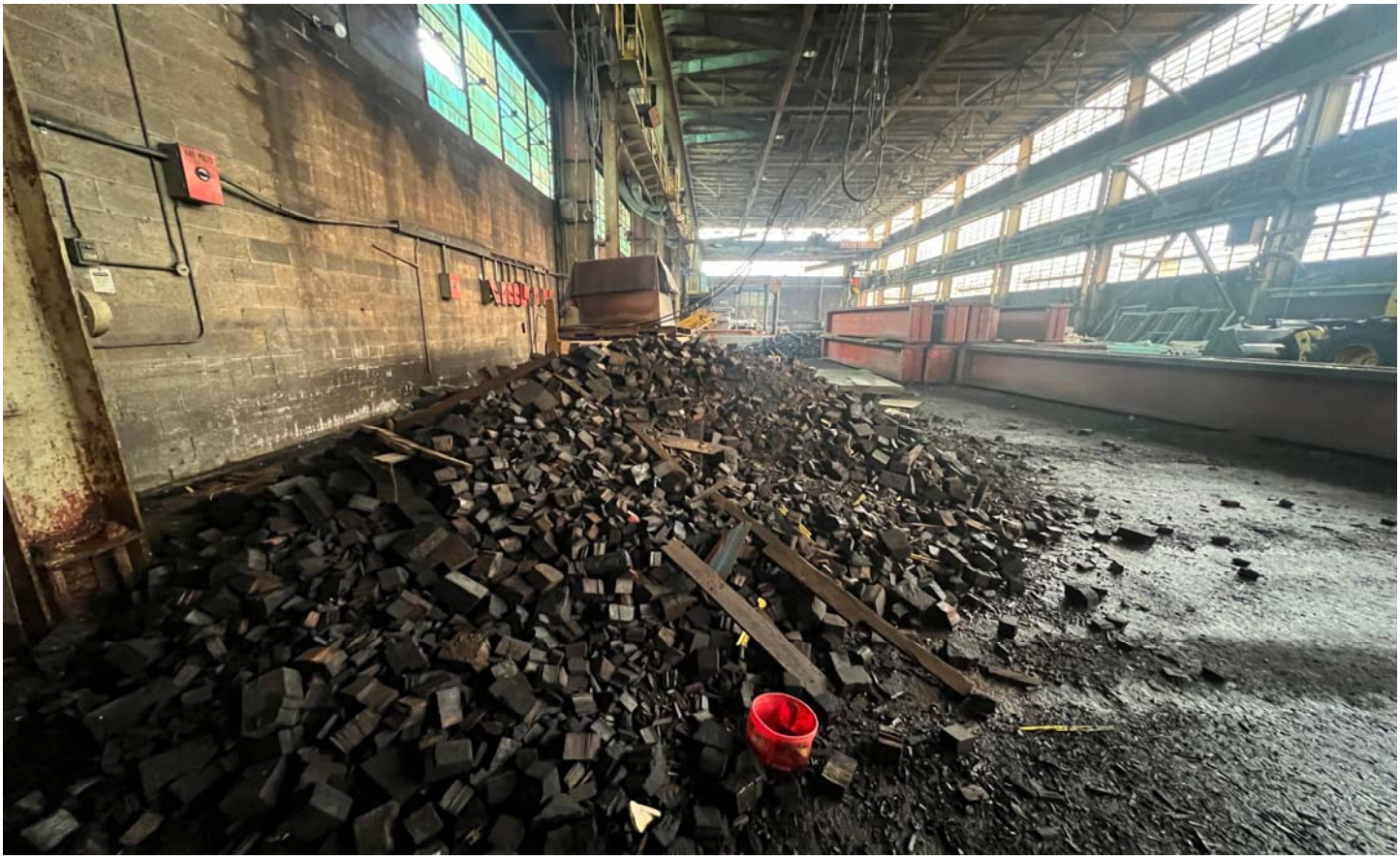
Interior of the Rotoblast



Sludge beneath the Rotoblast



Furnace in the western portion of the subject building



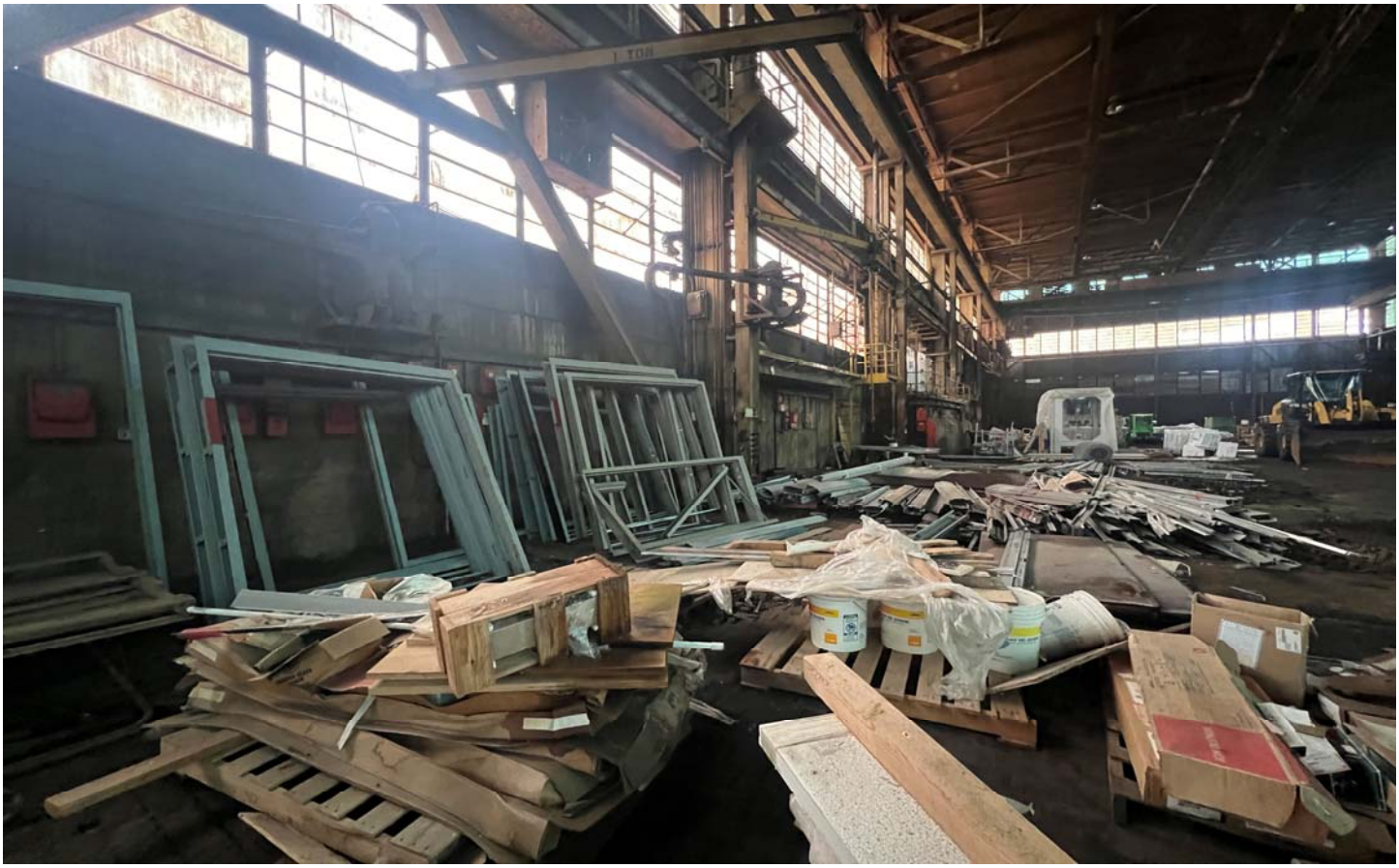
Pile of stained wood block flooring in the western portion of the subject building looking north



55-gallon drums in the western portion of the subject building



Flooring in the western central portion of the subject building



Building material storage in the western portion of the subject building



Northern portion of the subject building



Building material storage in the northern portion of the subject building



Building material storage on top of the sand pit



Central portion of the subject looking south



Machine platforms in the northern central portion of the subject building



Welded manhole cover in the central portion of the subject building



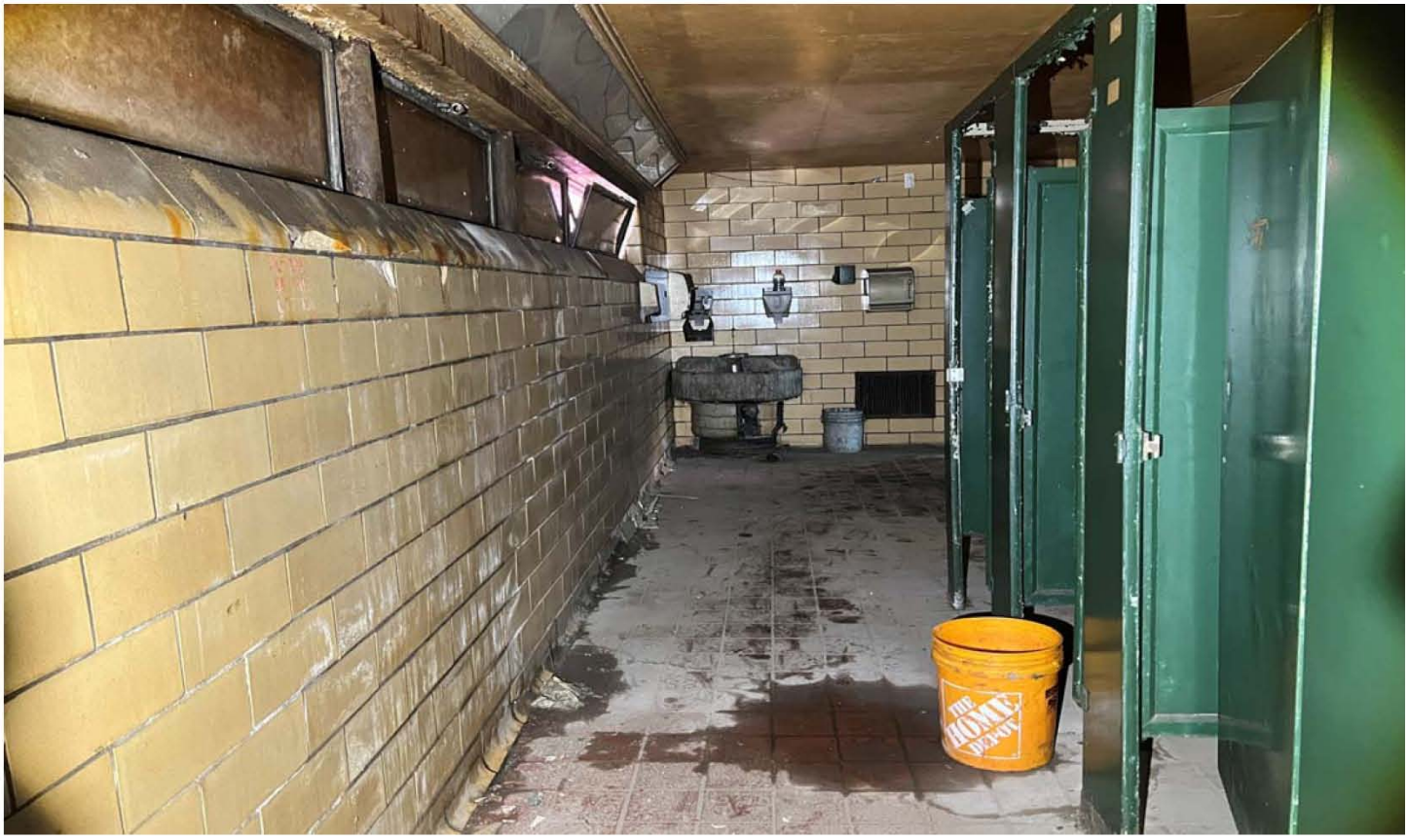
Building material storage in the eastern portion of the subject building



Railroad tracks bisecting the subject building east to west



Electrical panel boxes



Men's restroom



Northern adjacent property and chimney stack at 537 Delvan Avenue – Formerly Houdaille Industries



Eastern adjacent properties – Northland Central building complex



Southern adjacent property – Railroad tracks



Western adjacent property – vacant industrial building



Northwest adjacent property – vacant industrial building

APPENDIX 3

Environmental Questionnaire

Site address: 631 Northland Avenue, Buffalo, Erie County NY, Tax No. 101.21-5-1.21

USER QUESTIONNAIRE

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"), the *user* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. The *user* should provide the following information to the *environmental professional.*

(1.) Are there any environmental liens that are filed or recorded against the *property?*

No.

(2.) Are there any activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property,* such as *engineering controls*, land use restrictions or *institutional controls*?

No.

(3.) Do you have any specialized knowledge or experience related to the property or the nearby properties?

No.

(4.) What is the relationship of the purchase price to the fair market value of the *property* if it were not contaminated?

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

The subject property was purchased by BUDC as is.

(5.) Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

Please refer to Fisher Associates Phase 1 and 2 Environmental Site Assessment (ESA

(a.) Do you know the past uses of the *property*?

Former machine and tool works facility.

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

Only as noted in Fisher Associates ESA.

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

Only as noted in Fisher Associates ESA.

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

Only as noted in Fisher Associates ESA.

(6.) What is the degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation?

The potential of contamination exists due to its relationship with other properties located

(7.) Additional questions:

a. What is the reason that the Phase I ESA is being performed (sale, purchase, etc.)?

To update the previous Phase 1 ESA from 2015.

User (print name): Angelo Rhodes II

Signature: Angelo K Rhodes II

Date: 2/22/2024

User Questionnaire

Site address: 631 Northland Ave, Buffalo, Erie County NY, Tax No. 101.21-5-1.21

5. Please refer to Fisher Associates Phase 1 and 2 Environmental Site Assessment (ESA) Reports.

6. The potential of contamination exists due to its relationship with other properties located in the corridor such as the wooden block floors that are stained from cutting oils, hydraulic oils, grease, and other suspected petroleum products.

APPENDIX 4

Historic Research Documentation

631 Northland Avenue

631 Northland Avenue

Buffalo, NY 14211

Inquiry Number: 7555240.3

January 31, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/31/24

Site Name:

631 Northland Avenue
631 Northland Avenue
Buffalo, NY 14211
EDR Inquiry # 7555240.3

Client Name:

Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Ave
Rochester, NY 14618
Contact: Lynn.zicari

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Ravi Engineering & Land Surveying, P.C. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # AE62-4E63-B55D

PO # 43-24-029

Project 631 Northland Avenue

Maps Provided:

1986
1950
1939
1917
1900

Sanborn® Library search results

Certification #: AE62-4E63-B55D

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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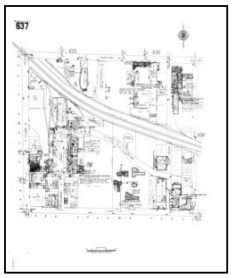
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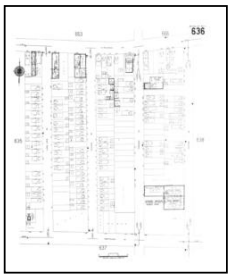
1986 Source Sheets



Volume 6, Sheet 637
1986



Volume 6, Sheet 635
1986



Volume 6, Sheet 636
1986

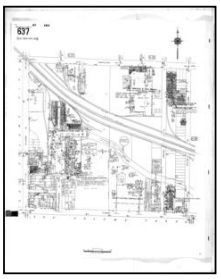
1950 Source Sheets



Volume 6, Sheet 636
1950

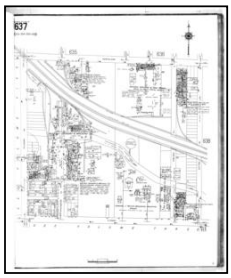


Volume 6, Sheet 635
1950



Volume 6, Sheet 637
1950

1939 Source Sheets



Volume 6, Sheet 637
1939

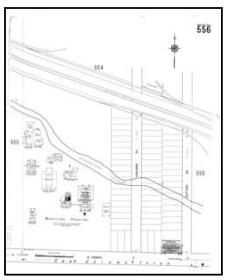


Volume 6, Sheet 635
1939



Volume 6, Sheet 636
1939

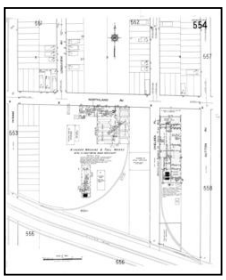
1917 Source Sheets



Volume 6, Sheet 556
1917



Volume 6, Sheet 555
1917



Volume 6, Sheet 554
1917



Volume 6, Sheet 553
1917

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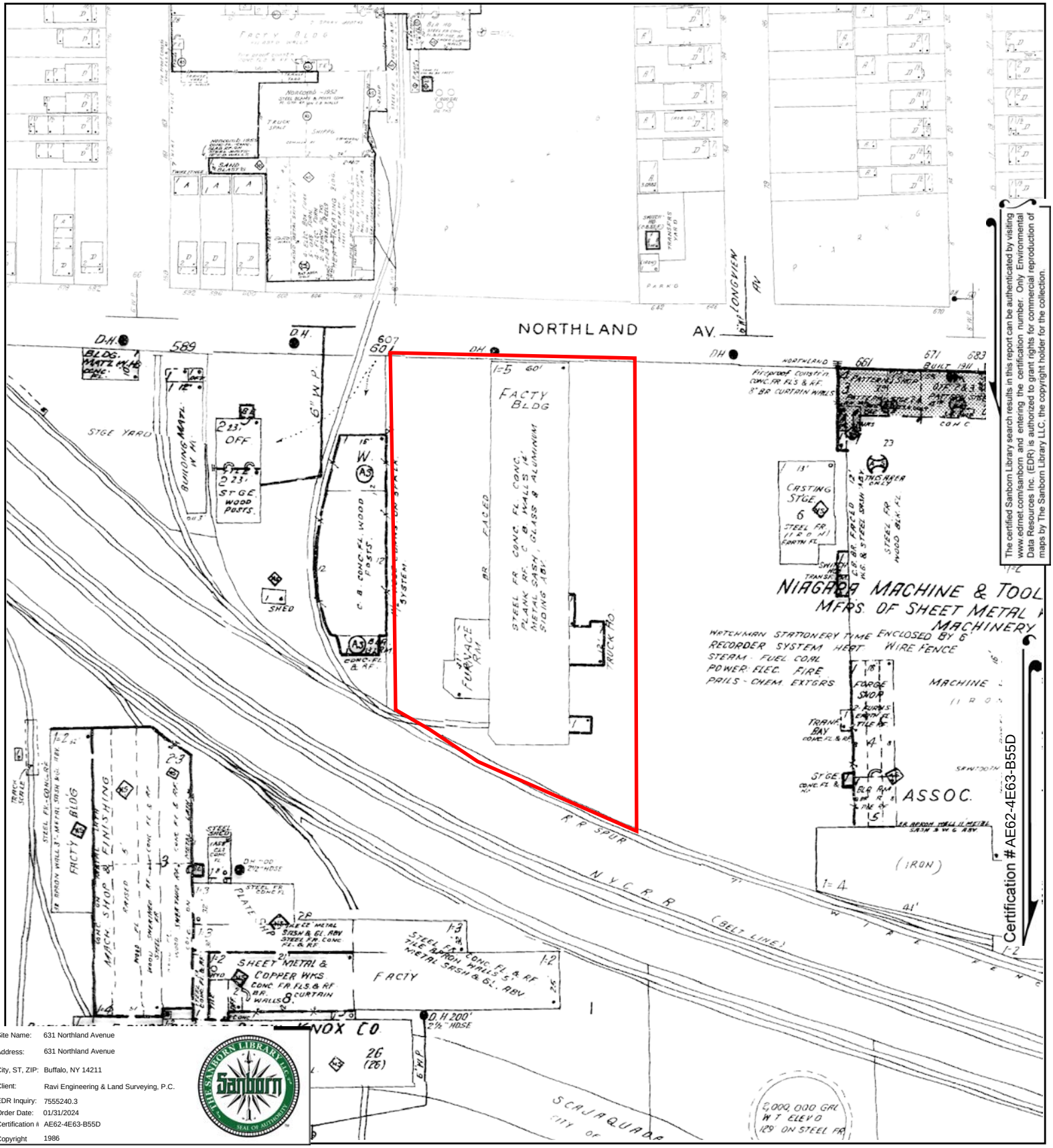
1900 Source Sheets



Volume 4, Sheet 404
1900

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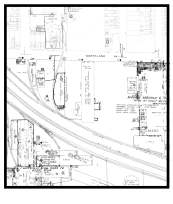
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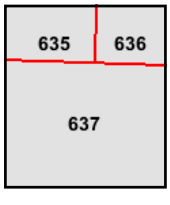


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City, ST, ZIP:	Buffalo, NY 14211
Client:	Ravi Engineering & Land Surveying, P.C.
EDR Inquiry:	7555240.3
Order Date:	01/31/2024
Certification #:	AE62-4E63-B55D
Copyright	1986

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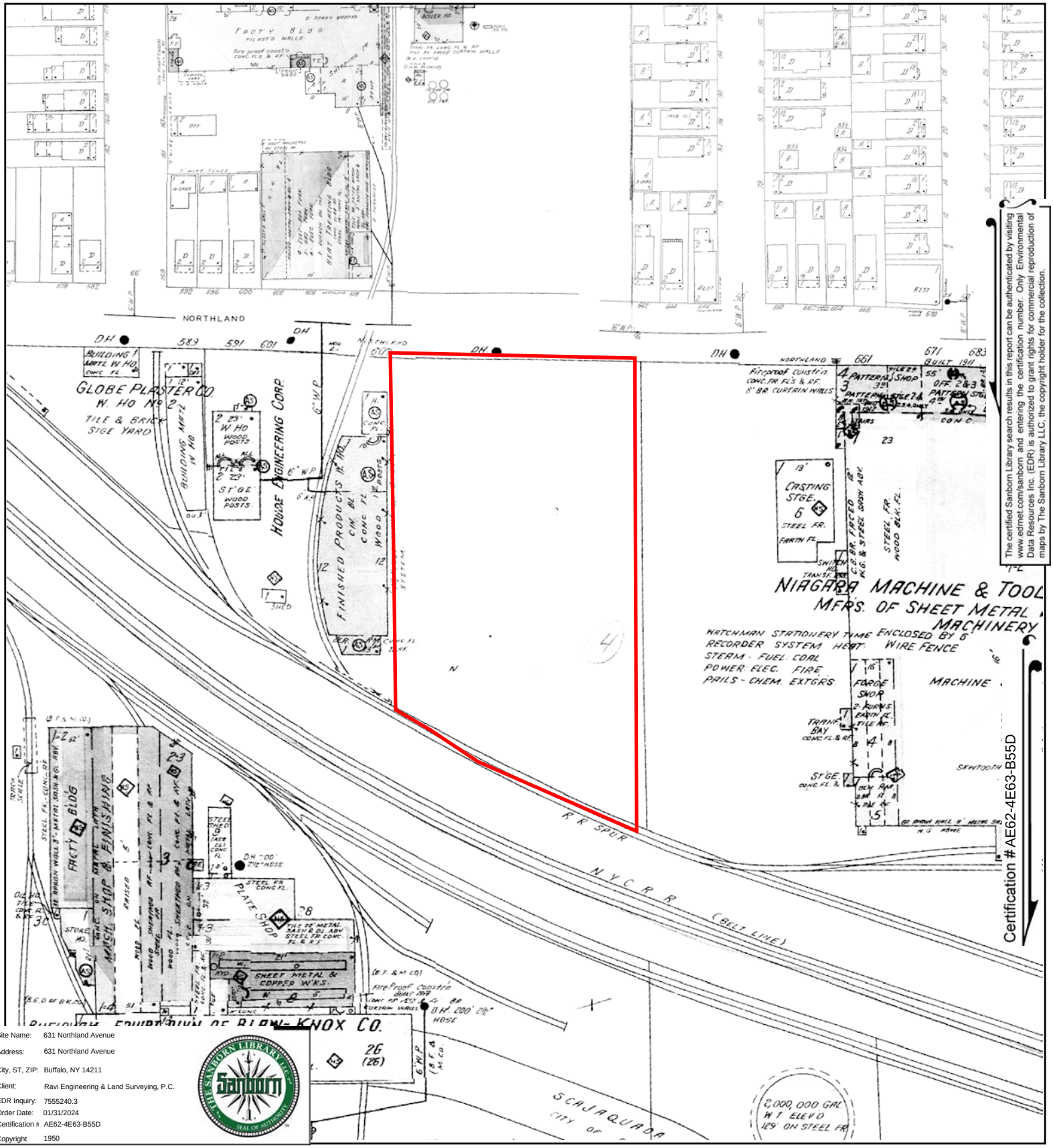




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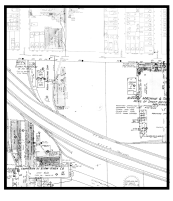
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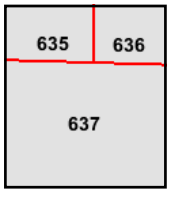


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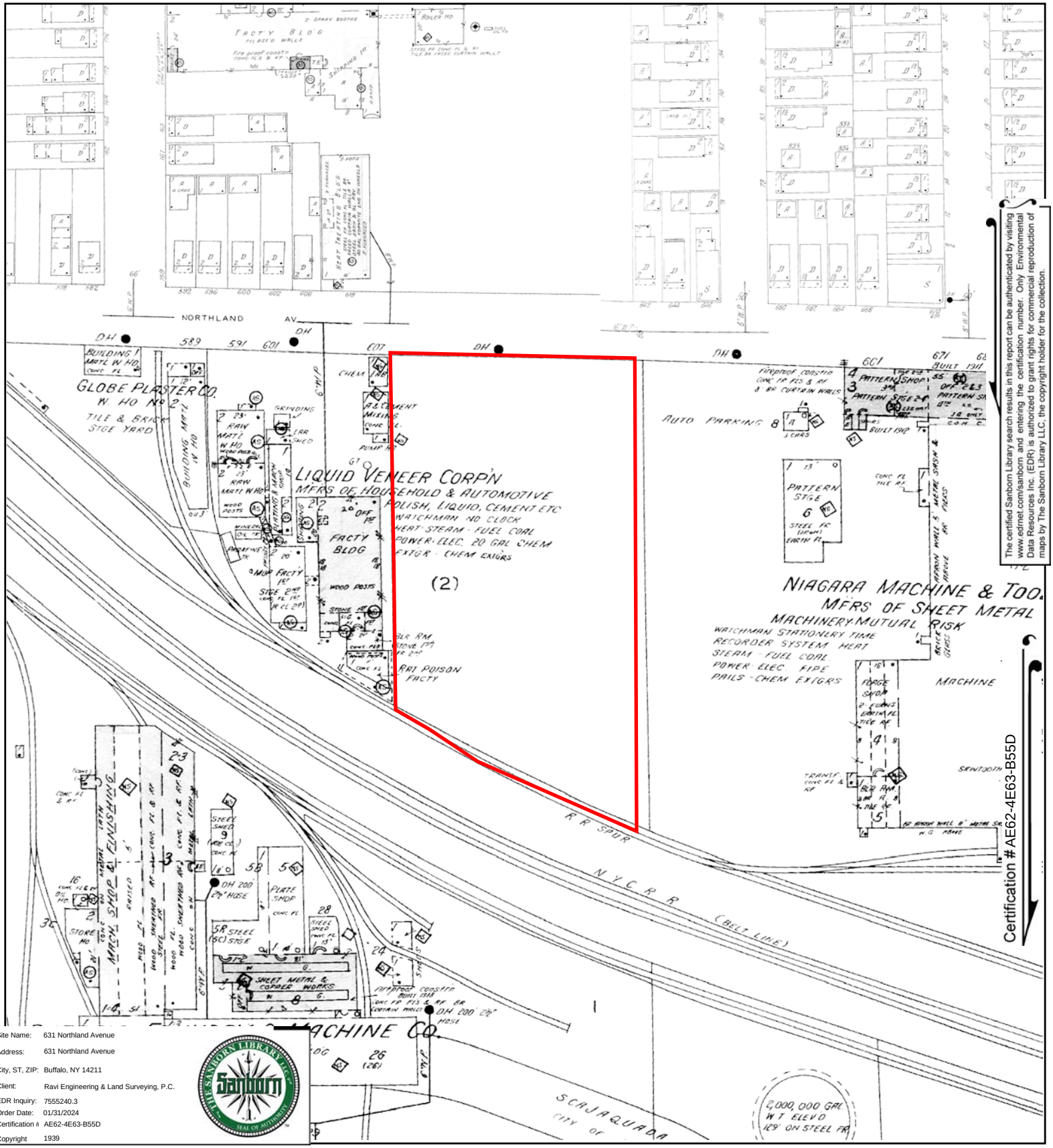




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Volume 6, Sheet 635
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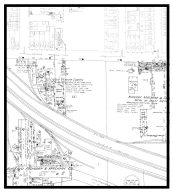
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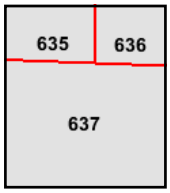


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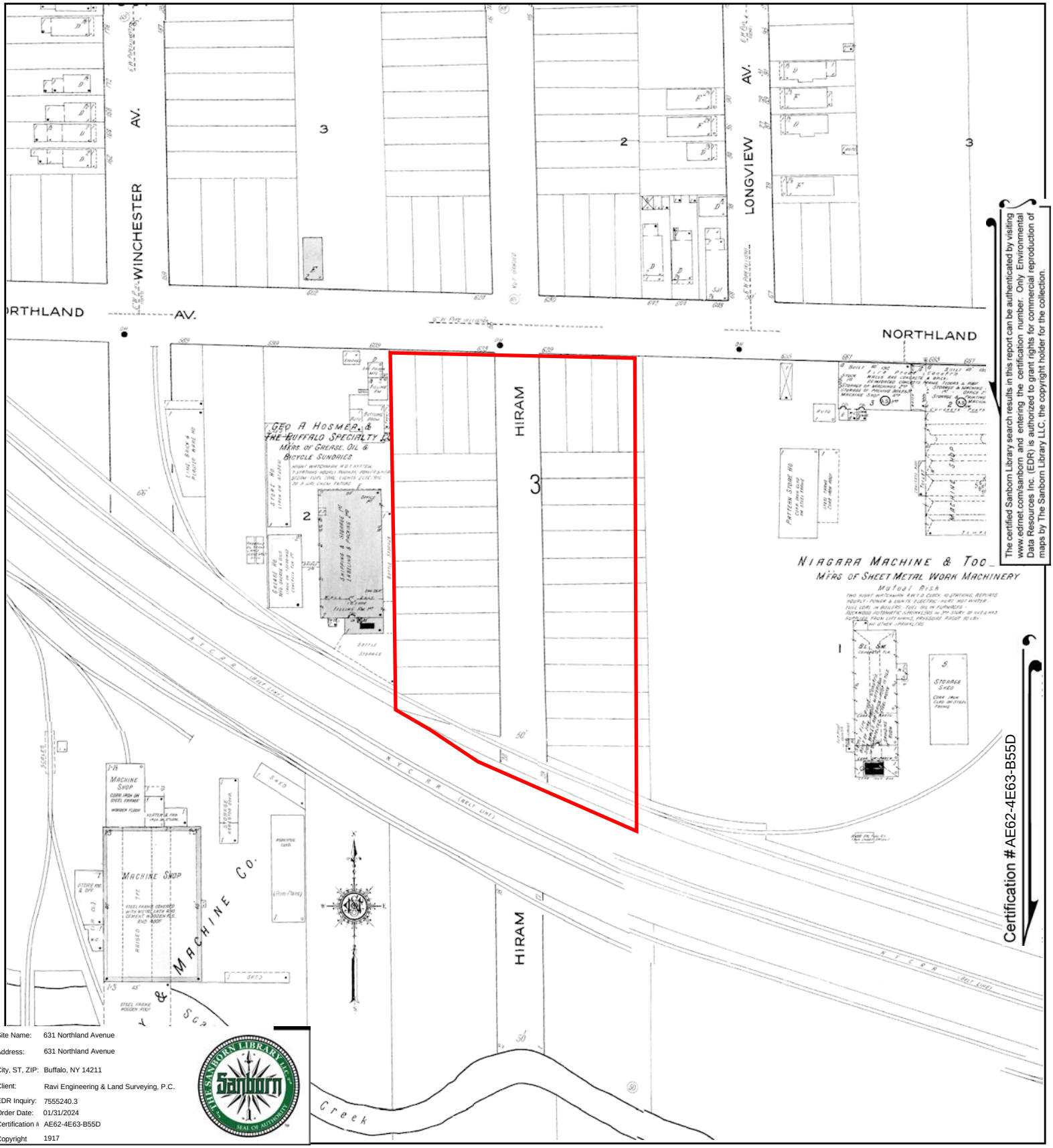




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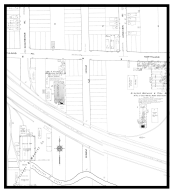
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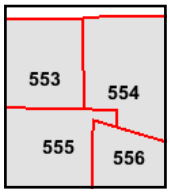
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Copyright: 1917

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Volume 6, Sheet 556

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EDR Inquiry: 7555240.3
Order Date: 01/31/2024
Certification #: AE62-4E63-B55D
Copyright: 1900

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0 Feet 150 300 600

404

N

631 Northland Avenue

631 Northland Avenue

Buffalo, NY 14211

Inquiry Number: 7555240.8

January 31, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

01/31/24

Site Name:

631 Northland Avenue
631 Northland Avenue
Buffalo, NY 14211
EDR Inquiry # 7555240.8

Client Name:

Ravi Engineering & Land Surveying, P.C
2110 South Clinton Ave
Rochester, NY 14618
Contact: Lynn.zicari

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Search Results:

Year	*Scale*	*Details*	*Source*
2019	1"=500'	Flight Year: 2019	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2008	1"=500'	Flight Year: 2008	USDA/NAIP
1995	1"=500'	Acquisition Date: March 28, 1995	USGS/DOQQ
1985	1"=500'	Flight Date: April 27, 1985	USDA
1983	1"=500'	Flight Date: March 17, 1983	USDA
1978	1"=500'	Flight Date: October 31, 1978	USDA
1970	1"=500'	Flight Date: June 23, 1970	USGS
1966	1"=500'	Flight Date: June 12, 1966	USDA
1958	1"=500'	Flight Date: October 06, 1958	USDA
1951	1"=500'	Flight Date: October 14, 1951	USDA
1938	1"=500'	Flight Date: August 03, 1938	USDA

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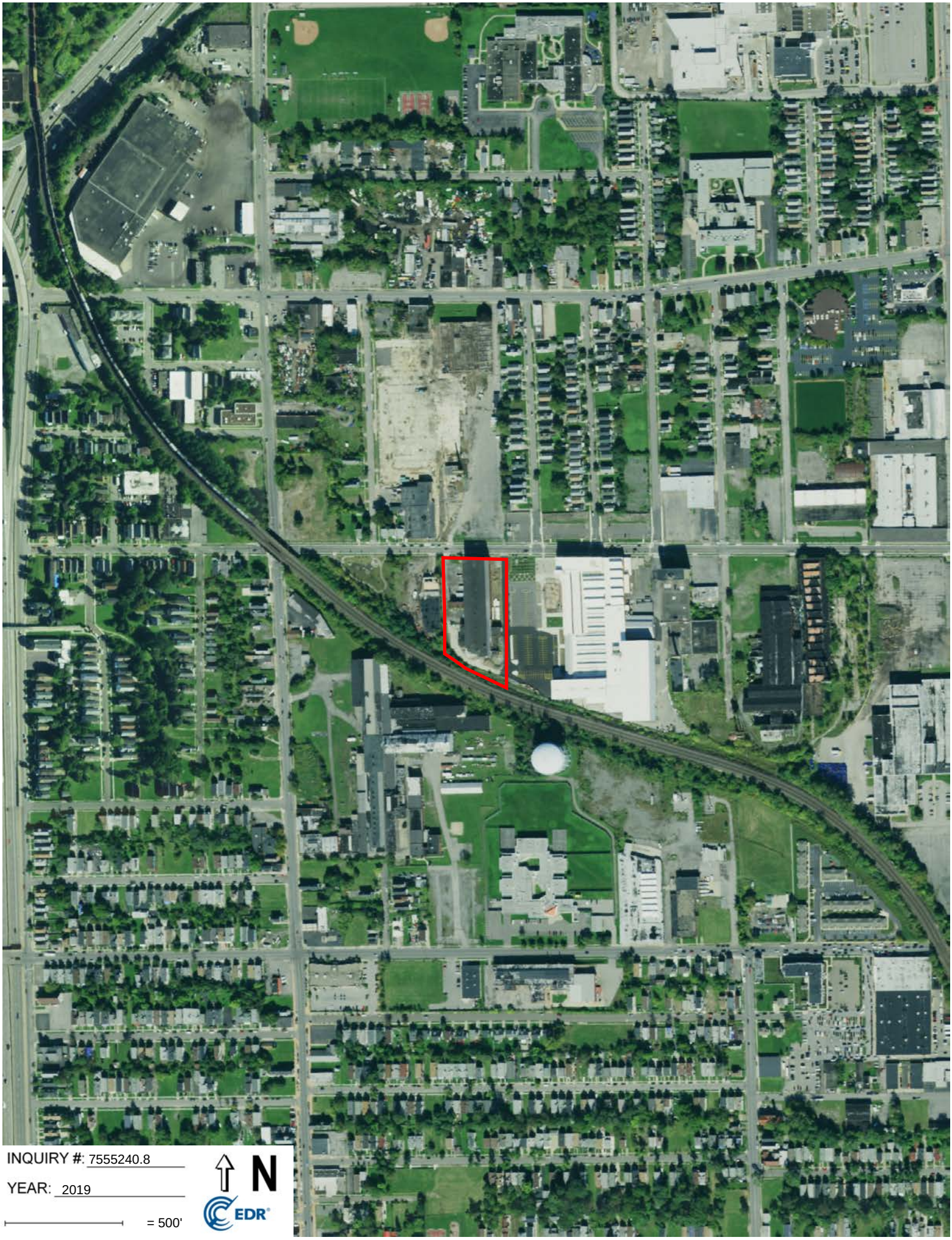
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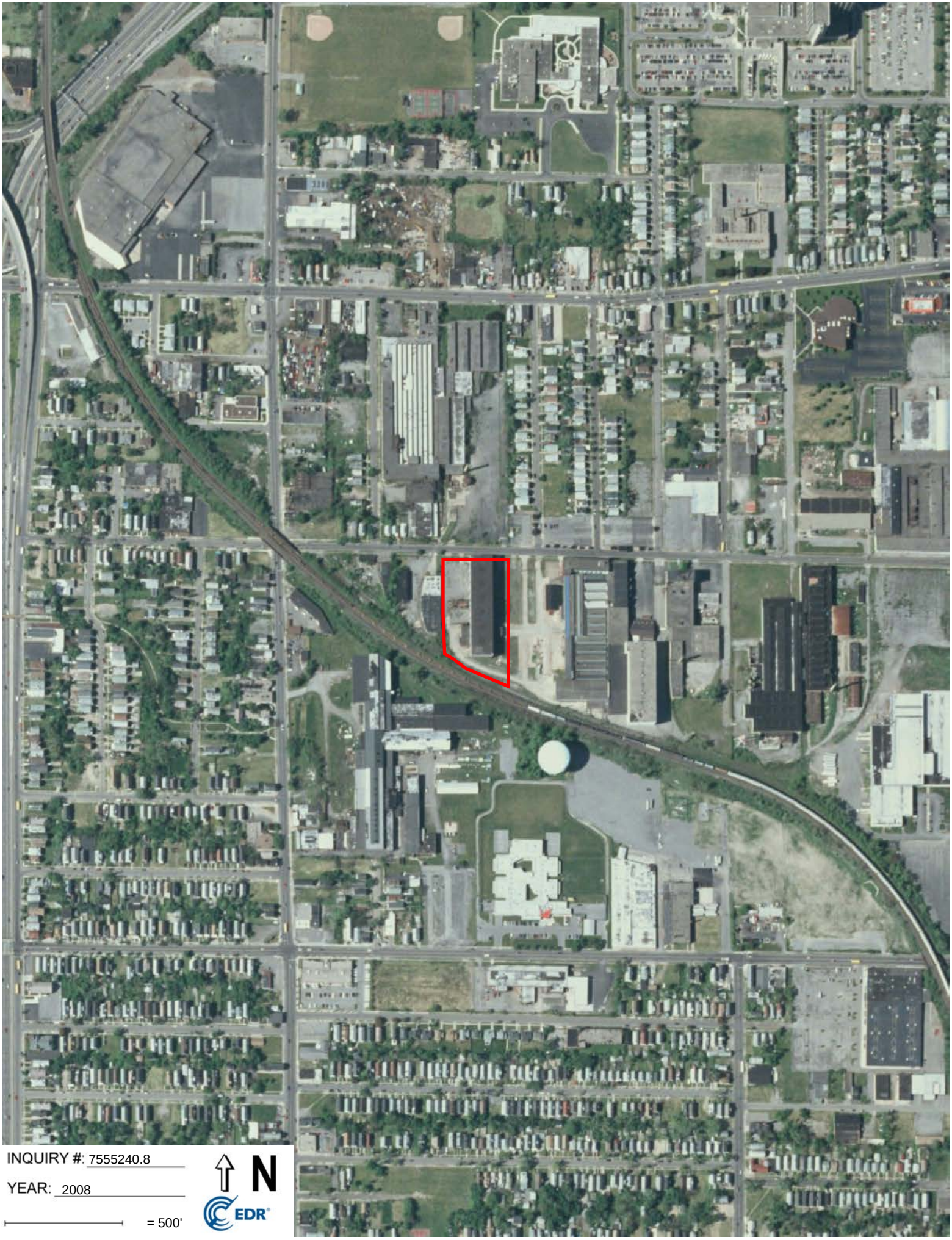
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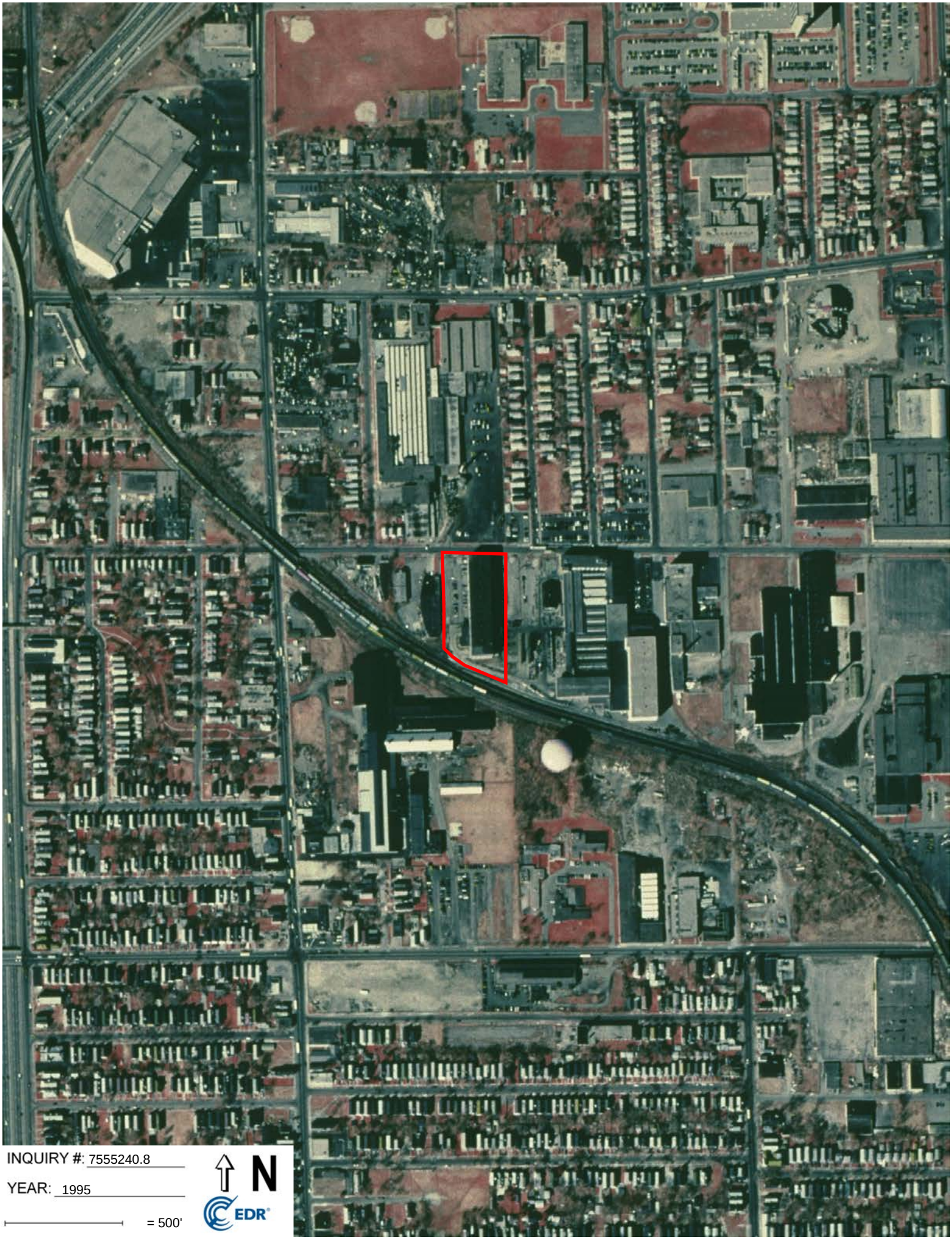
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INQUIRY #: 7555240.8
YEAR: 2019
= 500'
N
EDR


INQUIRY #: 7555240.8
YEAR: 2015
= 500'
N
EDR


INQUIRY #: 7555240.8
YEAR: 2011
= 500'
N
EDR


INQUIRY #: 7555240.8
YEAR: 2008
= 500'
N
EDR


INQUIRY #: 7555240.8
YEAR: 1995
= 500'
N
EDR


INQUIRY #: 7555240.8
YEAR: 1985
= 500'
N
EDR



INQUIRY #: 7555240.8

YEAR: 1983

= 500'

N

EDR



INQUIRY #: 7555240.8

YEAR: 1978

= 500'

N

EDR



INQUIRY #: 7555240.8

YEAR: 1970

= 500'

N

EDR


INQUIRY #: 7555240.8
YEAR: 1966
= 500'
N
EDR



INQUIRY #: 7555240.8

YEAR: 1958

= 500'

N

EDR


INQUIRY #: 7555240.8
YEAR: 1951
= 500'
N
EDR


INQUIRY #: 7555240.8
YEAR: 1938
= 500'
N
EDR

APPENDIX 5

EDR Radius Map Report

631 Northland Avenue
631 Northland Avenue
Buffalo, NY 14211

Inquiry Number: 7555240.2s
January 30, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

631 NORTHLAND AVENUE
BUFFALO, NY 14211

COORDINATES

Latitude (North):	42.9183200 - 42° 55' 5.95''
Longitude (West):	78.8363170 - 78° 50' 10.74''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	676599.8
UTM Y (Meters):	4753801.0
Elevation:	640 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	14122104 BUFFALO NE, NY
Version Date:	2019

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20190906
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
631 NORTHLAND AVENUE
BUFFALO, NY 14211

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	CLEARING NIAGARA	637-97 NORTHLAND AVE	NY MANIFEST	Higher	1 ft.
A2	DRUMS FOUND AT FIRE	601 NORTHLAND	NY Spills	Higher	66, 0.013, NW
B3	BUFFALO POWDER COATI	602 NORTHLAND AVE	NY Spills, RCRA NonGen / NLR, FINDS, ECHO, NY...	Higher	150, 0.028, NW
B4	PHASE 2	577 NORTHLAND AVE	NY Spills	Lower	276, 0.052, WNW
C5	WESTERN NEW YORK WOR	665 AND 683 NORTHLAN	NY INST CONTROL	Higher	279, 0.053, ENE
C6	683 NORTHLAND LLC	683 NORTHLAND AVE	NY MANIFEST	Higher	279, 0.053, ENE
C7	WESTERN NEW YORK WOR	665 AND 683 NORTHLAN	NY ENG CONTROLS	Higher	279, 0.053, ENE
C8	NIAGRA ME & TL WORKS	637-97 NORTHLAND AVE	NY Spills, RCRA NonGen / NLR, FINDS, ECHO	Higher	279, 0.053, ENE
C9	WESTERN NY WORKFORCE	683 NORTHLAND AVENUE	NY UST, NY AST	Higher	279, 0.053, ENE
C10	WESTERN NEW YORK WOR	665 AND 683 NORTHLAN	NY BROWNFIELDS	Higher	279, 0.053, ENE
C11	683 NORTHLAND LLC	683 NORTHLAND AVE	RCRA NonGen / NLR	Higher	279, 0.053, ENE
C12	NORTHLAND EAST LLC	683 NORTHLAND AVENUE	UST FINDER	Higher	279, 0.053, ENE
D13	COMMERCIAL	1669 FILLMORE AVE	NY Spills	Lower	533, 0.101, WNW
D14	PRATT GEO E FILLING	1669 FILLMORE AVE	EDR Hist Auto	Lower	533, 0.101, WNW
D15	1669 FILLMORE AVE	1669 FILLMORE AVE	NY UST	Lower	533, 0.101, WNW
E16	MIKES AUTO SERVICE	1625 FILLMORE AVE	EDR Hist Auto	Lower	585, 0.111, WSW
E17	GEIGER ENTERPRIZES	1625 FILLMORE AVENUE	UST FINDER RELEASE	Lower	585, 0.111, WSW
E18	GEIGER ENTERPRIZES	1625 FILLMORE AVENUE	NY LTANKS	Lower	585, 0.111, WSW
E19	JET AUTO SERVICE GAR	1649 FILLMORE AVE	EDR Hist Auto	Lower	587, 0.111, West
D20	1681 FILLMORE	1681 FILLMORE AVENUE	SEMS	Lower	652, 0.123, NW
D21	NIAGARA MOHAWK A NAT	1668 FILLMORE AVE	RCRA NonGen / NLR, NY MANIFEST	Lower	681, 0.129, WNW
F22	PLESH CONTRACT PACKA		PFAS ECHO	Higher	741, 0.140, ENE
F23	INNOVATIVE CHEMICAL	711 NORTHLAND AVENUE	NY AST, NY CBS AST	Higher	745, 0.141, ENE
F24	JJP CONTRACT PACKAGI	711 NORTHLAND AVE	RCRA-LQG, NY CBS, NY AST, NY Spills, NY MANIFEST	Higher	745, 0.141, ENE
F25	WELL WORTH	180 DUTTON AVE	RCRA-VSQG	Higher	848, 0.161, ENE
F26	WELL WORTH PRODUCTS	180 DUTTON AVE	RCRA NonGen / NLR	Higher	848, 0.161, ENE
F27	WELL-WORTH PRODUCTS	180 DUTTON AVE	NY AIRS, NY MANIFEST	Higher	848, 0.161, ENE
G28	FRONTIER PLATING	68 BUELL AVE	RCRA NonGen / NLR, FINDS, ECHO	Higher	938, 0.178, NW
G29	FRONTIER PLATING	68 BUELL AVENUE	PA MANIFEST	Higher	938, 0.178, NW
G30	FRONTIER PLATING	68 BUELL AVE	RCRA NonGen / NLR, NY MANIFEST	Higher	938, 0.178, NW
31	BUFLOVAK CO SITE	1543 FILLMORE AVE.	FUSRAP	Lower	961, 0.182, SW
H32	WORLD SERIES OF SPOR	537 E DELAVAN AVE	UST FINDER	Higher	989, 0.187, North
H33	VIBRATECH	537 EAST DELVAM AVEN	SEMS, PRP	Higher	989, 0.187, North
H34	VIBRATECH INC.	537 EAST DELAVAN	NY SHWS, NY Spills	Higher	989, 0.187, North
H35	WORLD SERIES OF SPOR	537 E DELAVAN AVE	NY UST, NY AST	Higher	989, 0.187, North
H36	USEPA - REGION II -	537 E DELAVAN AVE	RCRA-LQG, NY MANIFEST, NY VAPOR REOPENED	Higher	989, 0.187, North
I37	WISE METAL WORKS INC	201 DUTTON ST	PA MANIFEST	Higher	1018, 0.193, ENE
I38	WEST METAL WORKS INC	201 DUTTON AVE	RCRA NonGen / NLR, NY MANIFEST	Higher	1018, 0.193, ENE
J39	BUFLOVAK LLC	750 EAST FERRY STREE	FINDS, ECHO, PFAS ECHO	Lower	1040, 0.197, South

MAPPED SITES SUMMARY

Target Property Address:
631 NORTHLAND AVENUE
BUFFALO, NY 14211

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
J40	HEBELER PROCESS SOLU	750 E FERRY ST	RCRA-VSQG, NY LTANKS, NY BROWNFIELDS, US AIRS, NY..	Lower	1040, 0.197, South
J41	BLAW-KNOX F & C EQUI	750 EAST FERRY STREE	NY AST	Lower	1040, 0.197, South
K42	ERIE COUNTY YOUTH DE	810 EAST FERRY STREE	NY UST	Lower	1042, 0.197, SSE
K43	ERIE COUNTY YOUTH DE	810 EAST FERRY STREE	NY AST	Lower	1042, 0.197, SSE
K44	ERIE COUNTY YOUTH DE	810 EAST FERRY STREE	UST FINDER	Lower	1042, 0.197, SSE
L45	K & B SALVAGE	509 EAST DELAVAN AVE	NY SWF/LF	Higher	1057, 0.200, NNW
I46	STAR LINEN SUPPLY	209 DUTTON AVE.	NY CBS, NY AST, NY CBS AST	Higher	1070, 0.203, NE
H47	BENS TIRE CENTER INC	540 EAST DELAVAN AVE	NY SWTIRE, NY Spills	Higher	1086, 0.206, North
H48	BENS TIRE CENTER INC	540 EAST DELAVAN AVE	NY SWF/LF	Higher	1086, 0.206, North
H49	BEN'S TIRE CENTER IN	540 E. DELEVAN AVENU	NY AST	Higher	1086, 0.206, North
L50	DELAVAN AUTO PARTS	505 E DELAVAN AVE	RCRA NonGen / NLR, FINDS, ECHO, NY MANIFEST	Higher	1093, 0.207, NNW
L51	DELAVAN AUTO PARTS	505 EAST DELAVAN AVE	NY SWF/LF	Higher	1093, 0.207, NNW
M52	INTERNATIONAL MARINE	812 E FERRY ST	RCRA NonGen / NLR, FINDS, ECHO, NY MANIFEST	Lower	1145, 0.217, SSE
M53	VACANT WAREHOUSE TAN	812 EAST FERRY STREE	NY LTANKS	Lower	1145, 0.217, SSE
M54	VACANT WAREHOUSE TAN	812 EAST FERRY STREE	UST FINDER RELEASE	Lower	1145, 0.217, SSE
55	INDECK-YERKES ENERGY	1 SHERIDAN DRIVE	NY AST	Higher	1148, 0.217, ENE
K56	CAMAIR INC	757 EAST FERRY STREE	UST FINDER RELEASE	Lower	1171, 0.222, SSE
K57	SECONDARY SERVICES I	757 E FERRY ST	RCRA-SQG, NY LTANKS, NY Spills, NY MANIFEST	Lower	1171, 0.222, SSE
N58	TEXAS GAS CONVENIENT	473 E DELAVAN AVE	UST FINDER	Higher	1207, 0.229, NW
N59	473 EAST DELAVAN COR	473 EAST DELAVAN AVE	NY LTANKS	Higher	1207, 0.229, NW
N60	JAWANI EXPRESS LLC	473 E DELAVAN AVE	NY UST	Higher	1207, 0.229, NW
O61	COLSTON'S MOBIL	1507 FILLMORE EAST F	UST FINDER RELEASE	Lower	1212, 0.230, SSW
O62	FERRY EXPRESS 5	1507 FILLMORE AVENUE	UST FINDER	Lower	1212, 0.230, SSW
O63	COLSTON'S MOBIL	1507 FILLMORE EAST F	NY LTANKS	Lower	1212, 0.230, SSW
O64	FERRY EXPRESS 5	1507 FILLMORE AVENUE	NY UST	Lower	1212, 0.230, SSW
O65	EXXONMOBIL OIL CORPO	1507 FILMORE AVE	RCRA NonGen / NLR	Lower	1212, 0.230, SSW
M66	NIAGARA MOHAWK A NAT	4 CHELSEA PL	RCRA NonGen / NLR, NY MANIFEST	Lower	1218, 0.231, SSE
M67	GOMCO DIV ALLIED HEA	828 E FERRY ST	RCRA NonGen / NLR, FINDS, ECHO, NY MANIFEST	Lower	1230, 0.233, SSE
68	F M C CORP	125 MOHICAN AVE	RCRA NonGen / NLR, FINDS, ECHO, NY MANIFEST	Higher	1315, 0.249, NW
O69	ATLANTIC REFINING	1500 FILLMORE	NY LTANKS	Lower	1324, 0.251, SSW
O70	ATLANTIC REFINING	1500 FILLMORE	UST FINDER RELEASE	Lower	1324, 0.251, SSW
O71	ATLANTIC STATION	FERRY ST. & FILLMORE	UST FINDER RELEASE	Lower	1336, 0.253, SSW
O72	ATLANTIC STATION	FERRY ST. & FILLMORE	NY LTANKS	Lower	1336, 0.253, SSW
O73	CITY OF BUFFALO	1489 FILLMORE AVENUE	NY LTANKS, NY Spills	Lower	1422, 0.269, SSW
P74	SUPER FUND SITE	856 E FERRY ST	NY LTANKS	Lower	1438, 0.272, SE
O75	AM/PM SUN GAS STATIO	1490 FILLMORE AVENUE	NY LTANKS	Lower	1452, 0.275, SSW
P76	EAST FERRY STREET	858 E. FERRY STREET	NY ERP	Lower	1460, 0.277, SE
P77	858 E. FERRY	858 E. FERRY	US BROWNFIELDS, FINDS	Lower	1460, 0.277, SE
P78	858 EAST FERRY STREE	858 EAST FERRY STREE	NY SHWS, NY Spills	Lower	1460, 0.277, SE

MAPPED SITES SUMMARY

Target Property Address:
631 NORTHLAND AVENUE
BUFFALO, NY 14211

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Q79	SEARS WAREHOUSE	420 EAST DELAVAN	UST FINDER RELEASE	Higher	1562, 0.296, NW
Q80	SEARS ROEBUCK & CO	420 E DELAVAN AVE	RCRA-VSQG, NY LTANKS, NY Spills, FINDS, ECHO, NY...	Higher	1562, 0.296, NW
81	PUBLIC SCHOOL #89	106 APPENHIEMER STRE	NY LTANKS	Higher	1568, 0.297, North
82	BUFFALO FIRE HOUSE #	WINSLOW AVENUE AT KE	NY LTANKS	Lower	1595, 0.302, SE
83	OTIS ELEV CO ORD PLT		FUDS	Higher	1639, 0.310, East
84	MT. OLIVE SENIOR MAN	703 EAST DELAVAN AVE	NY BROWNFIELDS, NY PFAS	Higher	1709, 0.324, NE
R85	UNKNOWN OIL AT 606 F	606 FERRY STREET	NY LTANKS, NY Spills	Lower	1721, 0.326, SW
R86	ATLANTIC A-PLUS	606 EAST FERRY STREE	UST FINDER RELEASE	Lower	1721, 0.326, SW
S87	OTIS ELEVATOR	230 GRIDER ST.	NY HSWDS	Higher	1775, 0.336, ENE
S88	OTIS ELEVATOR	230 GRIDER STREET	SEMS-ARCHIVE	Higher	1775, 0.336, ENE
T89	AFPLT NO 49		FUDS	Higher	1836, 0.348, ESE
T90	CURTISS WRIGHT (FORM	60 GRIDER	UST FINDER RELEASE	Higher	1862, 0.353, ESE
T91	CURTISS WRIGHT CORPO	60 GRIDER ST	RCRA-VSQG, NY LTANKS, NY Spills, NY MANIFEST	Higher	1862, 0.353, ESE
U92	ATLANTIC	755 EAST DELAVAN STR	UST FINDER RELEASE	Higher	2084, 0.395, NE
U93	SUN #0364-1446	755 EAST DELAVAN AVE	UST FINDER RELEASE	Higher	2084, 0.395, NE
U94	SUN 0364-1446	755 EAST DELAVAN STR	UST FINDER RELEASE	Higher	2084, 0.395, NE
U95	A-PLUS MINI MARKET	755 EAST DELAVAN AVE	UST FINDER RELEASE	Higher	2084, 0.395, NE
U96	ATLANTIC	755 EAST DELAVAN AVE	UST FINDER RELEASE	Higher	2084, 0.395, NE
U97	A PLUS MINI MART	755 EAST DELAVAN	UST FINDER RELEASE	Higher	2084, 0.395, NE
U98	HASSELBACK OIL CO. I	755 EAST DELAVAN AVE	NY LTANKS, NY Spills	Higher	2084, 0.395, NE
V99	473 EAST DELEVAN INC	966 EAST FERRY STREE	UST FINDER RELEASE	Higher	2297, 0.435, ESE
V100	EAST SIDE AUTO SERVI	966 EAST FERRY	UST FINDER, UST FINDER RELEASE	Higher	2297, 0.435, ESE
V101	MDM PETROLEUM	966 EAST FERRY STREE	UST FINDER RELEASE	Higher	2297, 0.435, ESE
V102	FORMER MDM PETROLEUM	966 EAST FERRY	UST FINDER RELEASE	Higher	2297, 0.435, ESE
V103	473 EAST DELEVAN INC	966 EAST FERRY STREE	NY LTANKS, NY Spills	Higher	2297, 0.435, ESE
104	DEMOLITION SITE	776 EAST DELAVAN AVE	UST FINDER RELEASE	Higher	2395, 0.454, NE
105	1827 FILLMORE AVENUE	1827 FILLMORE AVENUE	NY ENG CONTROLS, NY INST CONTROL, NY BROWNFIELDS	Higher	2572, 0.487, North
106	GENERAL ELECTRIC - F	318 URBAN ST	NY SHWS, NY ENG CONTROLS, NY INST CONTROL, RCRA...	Higher	3635, 0.688, SE
W107	NATIONAL GRID BARNS	144 KENSINGTON AVE	NY SHWS, NY Spills	Higher	3781, 0.716, NNW
W108	MDC- BUFFALO		FUDS	Higher	3934, 0.745, NNW
109	NIAGARA MOHAWK POWER	144 KENSINGTON AVE	CORRACTS, RCRA-TSDF, RCRA-LQG, US FIN ASSUR, 2020...	Higher	4352, 0.824, NNW
110	SUBSTATION 7 - 2ND F	1001 EAST DELAVAN AV	NY SHWS, NY LTANKS, NY MOSF, NY CBS, NY AST, NY...	Higher	4651, 0.881, ENE
111	SAGINAW - BUFFALO	320 SCAJAQUADA ST.	NY SHWS	Higher	4943, 0.936, East
112	BUFFALO CITY OF - DI	60-86 KINGSLEY ST	SEMS-ARCHIVE, NY SHWS, NY ENG CONTROLS, NY INST...	Higher	5186, 0.982, SW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

Lists of state and tribal leaking storage tanks

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
NY HIST LTANKS ---------- Listing of Leaking Storage Tanks

Lists of state and tribal registered storage tanks

FEMA UST ---------- Underground Storage Tank Listing
NY CBS UST ---------- Chemical Bulk Storage Database
NY MOSF UST ---------- Major Oil Storage Facilities Database
NY MOSF AST ---------- Major Oil Storage Facilities Database
INDIAN UST ---------- Underground Storage Tanks on Indian Land
NY TANKS ---------- Storage Tank Faciliy Listing

State and tribal institutional control / engineering control registries

NY RES DECL ---------- Restrictive Declarations Listing

Lists of state and tribal voluntary cleanup sites

NY VCP ---------- Voluntary Cleanup Agreements
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

NY SWRCY ---------- Registered Recycling Facility List
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
NY DEL SHWS ---------- Delisted Registry Sites
US CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

NY HIST UST ---------- Historical Petroleum Bulk Storage Database
NY HIST AST ---------- Historical Petroleum Bulk Storage Database

Local Land Records

NY LIENS ---------- Spill Liens Information
LIENS 2 ---------- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
NY Hist Spills ---------- SPILLS Database
NY SPILLS 90 ---------- SPILLS 90 data from FirstSearch
NY SPILLS 80 ---------- SPILLS 80 data from FirstSearch

Other Ascertainable Records

DOD ---------- Department of Defense Sites
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
EPA WATCH LIST ---------- EPA WATCH LIST
TSCA ---------- Toxic Substances Control Act
TRIS ---------- Toxic Chemical Release Inventory System
SSTS ---------- Section 7 Tracking Systems
ROD ---------- Records Of Decision
RMP ---------- Risk Management Plans
RAATS ---------- RCRA Administrative Action Tracking System

EXECUTIVE SUMMARY

ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
MINES MRDS ---- Mineral Resources Data System
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
UXO ---- Unexploded Ordnance Sites
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
PFAS NPL ---- Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES ---- Federal Sites PFAS Information
PFAS TRIS ---- List of PFAS Added to the TRI
PFAS TSCA ---- PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST ---- PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR ---- PFAS Contamination Site Location Listing
PFAS WQP ---- Ambient Environmental Sampling for PFAS
PFAS NPDES ---- Clean Water Act Discharge Monitoring Information
PFAS ECHO FIRE TRAINING ---- Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT ---- All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC ---- Aqueous Foam Related Incidents Listing
BIOSOLIDS ---- ICIS-NPDES Biosolids Facility Data
NY COAL ASH ---- Coal Ash Disposal Site Listing
NY DRYCLEANERS ---- Registered Drycleaners
NY E DESIGNATION ---- E DESIGNATION SITE LISTING
NY Financial Assurance ---- Financial Assurance Information Listing
NY LEAD ---- Lead-based Paint Testing Results
NY UIC ---- Underground Injection Control Wells
NY COOLING TOWERS ---- Registered Cooling Towers
NY NYC LAND USE ---- New York City Land Use Information
NY MGP ---- Manufactured Gas Plants Listing
NY ILI ---- New York State Inactive Landfill Initiative
NY NYC OER ---- OER Cleanup Sites Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

NY RGA HWS ---- Recovered Government Archive State Hazardous Waste Facilities List

EXECUTIVE SUMMARY

NY RGA LF..... Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal sites subject to CERCLA removals and CERCLA orders

SEMS: SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the SEMS list, as provided by EDR, and dated 09/19/2023 has revealed that there are 2 SEMS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VIBRATECH Site ID: 0206025 EPA Id: NYN000206025	***537 EAST DELVAM AVEN***	***N 1/8 - 1/4 (0.187 mi.)***	***H33***	***226***

Lower Elevation	Address	Direction / Distance	Map ID	Page
1681 FILLMORE	1681 FILLMORE AVENUE	NW 0 - 1/8 (0.123 mi.)	D20	96

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless

information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 09/19/2023 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OTIS ELEVATOR Site ID: 0202139 EPA Id: NYD980641567	230 GRIDER STREET	ENE 1/4 - 1/2 (0.336 mi.)	S88	509

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 12/04/2023 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NIAGARA MOHAWK POWER EPA ID:: NYD000730390	***144 KENSINGTON AVE***	***NNW 1/2 - 1 (0.824 mi.)***	***109***	***633***

Lists of Federal RCRA generators

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/04/2023 has revealed that there are 2 RCRA-LQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JJP CONTRACT PACKAGI EPA ID:: NYD002127041	***711 NORTHLAND AVE***	***ENE 1/8 - 1/4 (0.141 mi.)***	***F24***	***115***
USEPA - REGION II - EPA ID:: NYD083530428	***537 E DELAVAN AVE***	***N 1/8 - 1/4 (0.187 mi.)***	***H36***	***245***

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/04/2023 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SECONDARY SERVICES I	***757 E FERRY ST***	***SSE 1/8 - 1/4 (0.222 mi.)***	***K57***	***384***
EPA ID:: NYR000021519				

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 12/04/2023 has revealed that there are 2 RCRA-VSQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WELL WORTH	180 DUTTON AVE	ENE 1/8 - 1/4 (0.161 mi.)	F25	197
EPA ID:: NYN008022972				

Lower Elevation	Address	Direction / Distance	Map ID	Page
HEBELER PROCESS SOLU	***750 E FERRY ST***	***S 1/8 - 1/4 (0.197 mi.)***	***J40***	***282***
EPA ID:: NYD096299292				

Lists of state- and tribal hazardous waste facilities

NY SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Conservation's Inactive Hazardous waste Disposal Sites in New York State.

A review of the NY SHWS list, as provided by EDR, and dated 08/07/2023 has revealed that there are 7 NY SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VIBRATECH INC.	***537 EAST DELAVAN***	***N 1/8 - 1/4 (0.187 mi.)***	***H34***	***227***
Site Code: 58140				
Class Code: Significant threat to the public health or environment - action required.				
GENERAL ELECTRIC - F	***318 URBAN ST***	***SE 1/2 - 1 (0.688 mi.)***	***106***	***585***
Site Code: 57878				
Class Code: Site is properly closed - requires continued management.				
NATIONAL GRID BARNS	***144 KENSINGTON AVE***	***NNW 1/2 - 1 (0.716 mi.)***	***W107***	***620***

Site Code: 57851

SUBSTATION 7 - 2ND F	***1001 EAST DELAVAN AV***	***ENE 1/2 - 1 (0.881 mi.)***	***110***	***683***
Site Code: 346870				
Class Code: Significant threat to the public health or environment - action required.				
SAGINAW - BUFFALO	320 SCAJAQUADA ST.	E 1/2 - 1 (0.936 mi.)	111	704
Site Code: 58414				
Class Code: Site is properly closed - requires continued management.				
BUFFALO CITY OF - DI	***60-86 KINGSLEY ST***	***SW 1/2 - 1 (0.982 mi.)***	***112***	***706***
Site Code: 56621				
Class Code: Site is properly closed - requires continued management.				

Lower Elevation	Address	Direction / Distance	Map ID	Page
858 EAST FERRY STREE	***858 EAST FERRY STREE***	***SE 1/4 - 1/2 (0.277 mi.)***	***P78***	***473***
Site Code: 56749				

Lists of state and tribal landfills and solid waste disposal facilities

NY SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the list.

A review of the NY SWF/LF list, as provided by EDR, and dated 09/27/2023 has revealed that there are 3 NY SWF/LF sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
K & B SALVAGE	509 EAST DELAVAN AVE	NNW 1/8 - 1/4 (0.200 mi.)	L45	322
BENS TIRE CENTER INC	540 EAST DELAVAN AVE	N 1/8 - 1/4 (0.206 mi.)	H48	327
DELAVAN AUTO PARTS	505 EAST DELAVAN AVE	NNW 1/8 - 1/4 (0.207 mi.)	L51	348

Lists of state and tribal leaking storage tanks

NY LTANKS: Leaking Storage Tank Incident Reports. These records contain an inventory of reported leaking storage tank incidents reported from 4/1/86 through the most recent update. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills

A review of the NY LTANKS list, as provided by EDR, and dated 01/24/2024 has revealed that there are 18 NY LTANKS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
473 EAST DELAVAN COR	473 EAST DELAVAN AVE	NW 1/8 - 1/4 (0.229 mi.)	N59	412
Spill Number/Closed Date: 8904709 / 2004-05-10				
Spill Date: 1989-08-01				
Site ID: 149210				
SEARS ROEBUCK & CO	***420 E DELAVAN AVE***	***NW 1/4 - 1/2 (0.296 mi.)***	***Q80***	***478***
Spill Number/Closed Date: 8704178 / 1988-03-29				
Spill Date: 1987-08-19				
Site ID: 190084				
PUBLIC SCHOOL #89	106 APPENHIEMER STRE	N 1/4 - 1/2 (0.297 mi.)	81	493

Spill Number/Closed Date: 9806516 / 1999-08-02
Spill Date: 1998-08-26
Site ID: 62242

CURTISS WRIGHT CORPO ***60 GRIDER ST*** ***ESE 1/4 - 1/2 (0.353 mi.)*** ***T91*** ***512***
Spill Number/Closed Date: 9875087 / 2001-11-21
Spill Date: 1998-10-01
Site ID: 108796

HASSELBACK OIL CO. I ***755 EAST DELAVAN AVE*** ***NE 1/4 - 1/2 (0.395 mi.)*** ***U98*** ***536***
Spill Number/Closed Date: 9307161 / 1993-09-17
Spill Date: 1993-09-13
Site ID: 135654

473 EAST DELEVAN INC ***966 EAST FERRY STREE*** ***ESE 1/4 - 1/2 (0.435 mi.)*** ***V103*** ***549***
Spill Number/Closed Date: 8800920 / 1988-05-03
Spill Number/Closed Date: 9609655 / 1998-05-28
Spill Number/Closed Date: 8904784 / 1990-11-05
Spill Number/Closed Date: 9203990 / 1994-12-05
Spill Date: 1988-04-29
Spill Date: 1996-10-15
Spill Date: 1989-08-11
Spill Date: 1992-07-06
Site ID: 320884
Site ID: 320885
Site ID: 97531
Site ID: 97532

Lower Elevation	Address	Direction / Distance	Map ID	Page
GEIGER ENTERPRIZES	1625 FILLMORE AVENUE	WSW 0 - 1/8 (0.111 mi.)	E18	95
Spill Number/Closed Date: 8001471 / 1981-05-01				
Spill Date: 1981-01-12				
Site ID: 79978				
HEBELER PROCESS SOLU	***750 E FERRY ST***	***S 1/8 - 1/4 (0.197 mi.)***	***J40***	***282***
Spill Number/Closed Date: 8604194 / 1988-08-04				
Spill Date: 1986-09-29				
Site ID: 190983				
VACANT WAREHOUSE TAN	812 EAST FERRY STREE	SSE 1/8 - 1/4 (0.217 mi.)	M53	376
Spill Number/Closed Date: 0075486 / 2001-01-18				
Spill Date: 2000-11-01				
Site ID: 271327				
SECONDARY SERVICES I	***757 E FERRY ST***	***SSE 1/8 - 1/4 (0.222 mi.)***	***K57***	***384***
Spill Number/Closed Date: 9613865 / 1997-08-21				
Spill Date: 1997-02-11				
Site ID: 174141				
COLSTON'S MOBIL	1507 FILLMORE EAST F	SSW 1/8 - 1/4 (0.230 mi.)	O63	423
Spill Number/Closed Date: 9406004 / 1995-11-14				
Spill Date: 1994-08-02				
Site ID: 91509				
ATLANTIC REFINING	1500 FILLMORE	SSW 1/4 - 1/2 (0.251 mi.)	O69	457
Spill Number/Closed Date: 8804608 / 1988-08-29				
Spill Date: 1988-08-25				
Site ID: 253970				
ATLANTIC STATION	FERRY ST. & FILLMORE	SSW 1/4 - 1/2 (0.253 mi.)	O72	460

Spill Number/Closed Date: 8804436 / 1994-10-27
Spill Date: 1988-08-19
Site ID: 195498

CITY OF BUFFALO ***1489 FILLMORE AVENUE*** ***SSW 1/4 - 1/2 (0.269 mi.)*** ***O73*** ***461***
Spill Number/Closed Date: 9305025 / 1993-11-01
Spill Number/Closed Date: 9511364 / 1997-06-09
Spill Date: 1993-05-20
Spill Date: 1995-12-08
Site ID: 256099
Site ID: 303953

SUPER FUND SITE 856 E FERRY ST SE 1/4 - 1/2 (0.272 mi.) P74 467
Spill Number/Closed Date: 0651675 / 2007-06-01
Spill Date: 2006-12-01
Site ID: 374523

AM/PM SUN GAS STATIO 1490 FILLMORE AVENUE SSW 1/4 - 1/2 (0.275 mi.) O75 468
Spill Number/Closed Date: 9611000 / 1996-12-13
Spill Date: 1996-10-01
Site ID: 197604

BUFFALO FIRE HOUSE # WINSLOW AVENUE AT KE SE 1/4 - 1/2 (0.302 mi.) 82 495
Spill Number/Closed Date: 9909931 / 2000-09-20
Spill Date: 1999-11-16
Site ID: 128508

UNKNOWN OIL AT 606 F ***606 FERRY STREET*** ***SW 1/4 - 1/2 (0.326 mi.)*** ***R85*** ***505***
Spill Number/Closed Date: 9201248 / 1992-05-01
Spill Date: 1992-04-30
Site ID: 163148

Lists of state and tribal registered storage tanks

NY UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database

A review of the NY UST list, as provided by EDR, has revealed that there are 6 NY UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WESTERN NY WORKFORCE	***683 NORTHLAND AVENUE***	***ENE 0 - 1/8 (0.053 mi.)***	***C9***	***68***
Database: UST, Date of Government Version: 09/06/2023				
WORLD SERIES OF SPOR	***537 E DELAVAN AVE***	***N 1/8 - 1/4 (0.187 mi.)***	***H35***	***240***
Database: UST, Date of Government Version: 09/06/2023				
JAWANI EXPRESS LLC	473 E DELAVAN AVE	NW 1/8 - 1/4 (0.229 mi.)	N60	415
Database: UST, Date of Government Version: 09/06/2023				

Lower Elevation	Address	Direction / Distance	Map ID	Page
1669 FILLMORE AVE	1669 FILLMORE AVE	WNW 0 - 1/8 (0.101 mi.)	D15	89
Database: UST, Date of Government Version: 09/06/2023				
ERIE COUNTY YOUTH DE	810 EAST FERRY STREE	SSE 1/8 - 1/4 (0.197 mi.)	K42	316
Database: UST, Date of Government Version: 09/06/2023				

Lower Elevation	Address	Direction / Distance	Map ID	Page
FERRY EXPRESS 5	1507 FILLMORE AVENUE	SSW 1/8 - 1/4 (0.230 mi.)	O64	424
Database: UST, Date of Government Version: 09/06/2023				

NY CBS: These facilities store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size

A review of the NY CBS list, as provided by EDR, and dated 09/06/2023 has revealed that there are 2 NY CBS sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JJP CONTRACT PACKAGI	***711 NORTHLAND AVE***	***ENE 1/8 - 1/4 (0.141 mi.)***	***F24***	***115***
Facility Status: Unregulated/Closed				
CBS Number: 9-000265				
STAR LINEN SUPPLY	***209 DUTTON AVE.***	***NE 1/8 - 1/4 (0.203 mi.)***	***I46***	***323***
Facility Status: Unregulated/Closed				
CBS Number: 9-000252				

NY AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database.

A review of the NY AST list, as provided by EDR, has revealed that there are 9 NY AST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WESTERN NY WORKFORCE	***683 NORTHLAND AVENUE***	***ENE 0 - 1/8 (0.053 mi.)***	***C9***	***68***
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-002607				
INNOVATIVE CHEMICAL	***711 NORTHLAND AVENUE***	***ENE 1/8 - 1/4 (0.141 mi.)***	***F23***	***103***
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-000265				
JJP CONTRACT PACKAGI	***711 NORTHLAND AVE***	***ENE 1/8 - 1/4 (0.141 mi.)***	***F24***	***115***
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-601834				
WORLD SERIES OF SPOR	***537 E DELAVAN AVE***	***N 1/8 - 1/4 (0.187 mi.)***	***H35***	***240***
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-054313				
STAR LINEN SUPPLY	***209 DUTTON AVE.***	***NE 1/8 - 1/4 (0.203 mi.)***	***I46***	***323***
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-000252				
BEN'S TIRE CENTER IN	540 E. DELEVAN AVENU	N 1/8 - 1/4 (0.206 mi.)	H49	330
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-600569				
INDECK-YERKES ENERGY	1 SHERIDAN DRIVE	ENE 1/8 - 1/4 (0.217 mi.)	55	378
Database: AST, Date of Government Version: 09/06/2023				
Facility Id: 9-491497				

Lower Elevation	Address	Direction / Distance	Map ID	Page
BLAW-KNOX F & C EQUI	750 EAST FERRY STREE	S 1/8 - 1/4 (0.197 mi.)	J41	314
Database: AST, Date of Government Version: 09/06/2023				

Facility Id: 9-446513

ERIE COUNTY YOUTH DE — 810 EAST FERRY STREE — SSE 1/8 - 1/4 (0.197 mi.) — K43 — 319
Database: AST, Date of Government Version: 09/06/2023
Facility Id: 9-601200

NY CBS AST: Chemical Bulk Storage Database. Registration data collected as required by 6 NYCRR Part 596. It includes facilities storing hazardous substances listed in 6 NYCRR Part 597, in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size. Includes facilities registered (and closed) since effective date of CBS regulations (July 15, 1988) through the date request is processed.

A review of the NY CBS AST list, as provided by EDR, and dated 01/01/2002 has revealed that there are 2 NY CBS AST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
INNOVATIVE CHEMICAL	***711 NORTHLAND AVENUE***	***ENE 1/8 - 1/4 (0.141 mi.)***	***F23***	***103***
Facility Status: 1 Facility Status: 1 CBS Number: 9-000265				
STAR LINEN SUPPLY	***209 DUTTON AVE.***	***NE 1/8 - 1/4 (0.203 mi.)***	***I46***	***323***
Facility Status: 2 Facility Status: 1 CBS Number: 9-000252				

State and tribal institutional control / engineering control registries

NY ENG CONTROLS: Environmental Remediation sites that have engineering controls in place.

A review of the NY ENG CONTROLS list, as provided by EDR, and dated 08/07/2023 has revealed that there are 2 NY ENG CONTROLS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WESTERN NEW YORK WOR Site Code: 533504	665 AND 683 NORTHLAN	ENE 0 - 1/8 (0.053 mi.)	C7	53
1827 FILLMORE AVENUE Site Code: 482726	***1827 FILLMORE AVENUE***	***N 1/4 - 1/2 (0.487 mi.)***	***105***	***558***

Environmental Remediation sites that have institutional controls in place.

A review of the NY INST CONTROL list, as provided by EDR, and dated 08/07/2023 has revealed that there are 2 NY INST CONTROL sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WESTERN NEW YORK WOR Site Code: 533504	665 AND 683 NORTHLAN	ENE 0 - 1/8 (0.053 mi.)	C5	29
1827 FILLMORE AVENUE	***1827 FILLMORE AVENUE***	***N 1/4 - 1/2 (0.487 mi.)***	***105***	***558***

Site Code: 482726

Lists of state and tribal brownfield sites

NY BROWNFIELDS: Brownfields Site List

A review of the NY BROWNFIELDS list, as provided by EDR, and dated 08/07/2023 has revealed that there are 4 NY BROWNFIELDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WESTERN NEW YORK WOR Site Code: 533504	665 AND 683 NORTHLAN	ENE 0 - 1/8 (0.053 mi.)	C10	77
MT. OLIVE SENIOR MAN Site Code: 618622	***703 EAST DELAVAN AVE***	***NE 1/4 - 1/2 (0.324 mi.)***	***84***	***497***
1827 FILLMORE AVENUE Site Code: 482726	***1827 FILLMORE AVENUE***	***N 1/4 - 1/2 (0.487 mi.)***	***105***	***558***

Lower Elevation	Address	Direction / Distance	Map ID	Page
HEBELER PROCESS SOLU Site Code: 646800	***750 E FERRY ST***	***S 1/8 - 1/4 (0.197 mi.)***	***J40***	***282***

NY ERP: In an effort to spur the cleanup and redevelopment of brownfields, New Yorkers approved a $200 million Environmental Restoration or Brownfields Fund as part of the $1.75 billion Clean Water/Clean Air Bond Act of 1996 (1996 Bond Act). Enhancements to the program were enacted on October 7, 2003. Under the Environmental Restoration Program, the State provides grants to municipalities to reimburse up to 90 percent of on-site eligible costs and 100% of off-site eligible costs for site investigation and remediation activities. Once remediated, the property may then be reused for commercial, industrial, residential or public use.

A review of the NY ERP list, as provided by EDR, and dated 08/07/2023 has revealed that there is 1 NY ERP site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EAST FERRY STREET Site Code: 57197	858 E. FERRY STREET	SE 1/4 - 1/2 (0.277 mi.)	P76	470

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 08/15/2023 has revealed that there

is 1 US BROWNFIELDS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
858 E. FERRY	***858 E. FERRY***	***SE 1/4 - 1/2 (0.277 mi.)***	***P77***	***472***
Cleanup Completion Date: -				

Local Lists of Landfill / Solid Waste Disposal Sites

NY SWTIRE: Registered Waste Tire Storage & Facility List from the Department of Environmental Conservation.

A review of the NY SWTIRE list, as provided by EDR, and dated 02/27/2018 has revealed that there is 1 NY SWTIRE site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BENS TIRE CENTER INC	***540 EAST DELAVAN AVE***	***N 1/8 - 1/4 (0.206 mi.)***	***H47***	***325***

Records of Emergency Release Reports

NY Spills: Data collected on spills reported to NYSDEC. is required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from PBS regs), or 6 NYCRR Section 595.2 (from CBS regs). It includes spills active as of April 1, 1986, as well as spills occurring since this date.

A review of the NY Spills list, as provided by EDR, and dated 01/24/2024 has revealed that there are 5 NY Spills sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DRUMS FOUND AT FIRE	601 NORTHLAND	NW 0 - 1/8 (0.013 mi.)	A2	19
Spill Number/Closed Date: 1402816 / 2014-12-29				
Site ID: 496153				
Spill Date: 2014-06-16				
BUFFALO POWDER COATI	***602 NORTHLAND AVE***	***NW 0 - 1/8 (0.028 mi.)***	***B3***	***20***
Spill Number/Closed Date: 9601211 / 1996-04-26				
Site ID: 149619				
Spill Date: 1996-04-01				
NIAGRA ME & TL WORKS	***637-97 NORTHLAND AVE***	***ENE 0 - 1/8 (0.053 mi.)***	***C8***	***61***
Spill Number/Closed Date: 0650390 / 2006-06-20				
Site ID: 365479				
Spill Date: 2006-06-14				

Lower Elevation	Address	Direction / Distance	Map ID	Page
PHASE 2	577 NORTHLAND AVE	WNW 0 - 1/8 (0.052 mi.)	B4	28
Spill Number/Closed Date: 1503449 / 2016-09-14				
Site ID: 509751				
Spill Date: 2015-06-29				
COMMERCIAL	1669 FILLMORE AVE	WNW 0 - 1/8 (0.101 mi.)	D13	85
Spill Number/Closed Date: 1603929 / 2021-07-15				

EXECUTIVE SUMMARY

Site ID: 530414
Spill Date: 2016-07-18

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/04/2023 has revealed that there are 14 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BUFFALO POWDER COATI EPA ID:: NY0000563684	***602 NORTHLAND AVE***	***NW 0 - 1/8 (0.028 mi.)***	***B3***	***20***
NIAGRA ME & TL WORKS EPA ID:: NYD002101442	***637-97 NORTHLAND AVE***	***ENE 0 - 1/8 (0.053 mi.)***	***C8***	***61***
683 NORTHLAND LLC EPA ID:: NYR000232587	683 NORTHLAND AVE	ENE 0 - 1/8 (0.053 mi.)	C11	79
WELL WORTH PRODUCTS EPA ID:: NYR000248617	180 DUTTON AVE	ENE 1/8 - 1/4 (0.161 mi.)	F26	200
FRONTIER PLATING EPA ID:: NYN008009060	***68 BUELL AVE***	***NW 1/8 - 1/4 (0.178 mi.)***	***G28***	***205***
FRONTIER PLATING EPA ID:: NYR000096024	***68 BUELL AVE***	***NW 1/8 - 1/4 (0.178 mi.)***	***G30***	***213***
WEST METAL WORKS INC EPA ID:: NYR000178764	***201 DUTTON AVE***	***ENE 1/8 - 1/4 (0.193 mi.)***	***I38***	***271***
DELAVAN AUTO PARTS EPA ID:: NY0000142133	***505 E DELAVAN AVE***	***NNW 1/8 - 1/4 (0.207 mi.)***	***L50***	***336***
F M C CORP EPA ID:: NYD986870079	***125 MOHICAN AVE***	***NW 1/8 - 1/4 (0.249 mi.)***	***68***	***448***

Lower Elevation	Address	Direction / Distance	Map ID	Page
NIAGARA MOHAWK A NAT EPA ID:: NYP000968677	***1668 FILLMORE AVE***	***WNW 1/8 - 1/4 (0.129 mi.)***	***D21***	***97***
INTERNATIONAL MARINE EPA ID:: NYR000100891	***812 E FERRY ST***	***SSE 1/8 - 1/4 (0.217 mi.)***	***M52***	***349***
EXXONMOBIL OIL CORPO EPA ID:: NYR000141820	1507 FILMORE AVE	SSW 1/8 - 1/4 (0.230 mi.)	O65	432
NIAGARA MOHAWK A NAT EPA ID:: NYP000968123	***4 CHELSEA PL***	***SSE 1/8 - 1/4 (0.231 mi.)***	***M66***	***435***
GOMCO DIV ALLIED HEA EPA ID:: NYD085674497	***828 E FERRY ST***	***SSE 1/8 - 1/4 (0.233 mi.)***	***M67***	***438***

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 08/07/2023 has revealed that there are 3 FUDS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OTIS ELEV CO ORD PLT		E 1/4 - 1/2 (0.310 mi.)	83	496
AFPLT NO 49		ESE 1/4 - 1/2 (0.348 mi.)	T89	510
MDC- BUFFALO		NNW 1/2 - 1 (0.745 mi.)	W108	632

FUSRAP: DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

A review of the FUSRAP list, as provided by EDR, and dated 03/03/2023 has revealed that there is 1 FUSRAP site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BUFLOVAK CO SITE	1543 FILLMORE AVE.	SW 1/8 - 1/4 (0.182 mi.)	31	224
Site Status: Eliminated from further consideration under FUSRAP				
Site ID: NY 56				

PFAS ECHO: Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

A review of the PFAS ECHO list, as provided by EDR, and dated 09/23/2023 has revealed that there are 2 PFAS ECHO sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PLESH CONTRACT PACKA		ENE 1/8 - 1/4 (0.140 mi.)	F22	100

Lower Elevation	Address	Direction / Distance	Map ID	Page
BUFLOVAK LLC	***750 EAST FERRY STREE***	***S 1/8 - 1/4 (0.197 mi.)***	***J39***	***279***

NY HSWDS: The List includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites and non-registry sites that U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared. Hazardous Substance Waste Disposal Sites are eligible to be Superfund sites now that the New York State Superfund has been refinanced and changed. This means that the study inventory has served its purpose and will no longer be maintained as a separate entity The latest version of the study is frozen in time. The sites on the study will not automatically be made superfund sites, rather each site will be further evaluated for listing in the registry. So overtime they will be added to the registry or not.

A review of the NY HSWDS list, as provided by EDR, and dated 01/01/2003 has revealed that there is 1 NY HSWDS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OTIS ELEVATOR	230 GRIDER ST.	ENE 1/4 - 1/2 (0.336 mi.)	S87	508

EXECUTIVE SUMMARY

NY MANIFEST: Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

A review of the NY MANIFEST list, as provided by EDR, and dated 12/31/2019 has revealed that there are 16 NY MANIFEST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CLEARING NIAGARA EPA ID: NYD002101442	637-97 NORTHLAND AVE	0 - 1/8 (0.000 mi.)	A1	9
BUFFALO POWDER COATI EPA ID: NY0000563684	***602 NORTHLAND AVE***	***NW 0 - 1/8 (0.028 mi.)***	***B3***	***20***
683 NORTHLAND LLC EPA ID: NYR000232587	683 NORTHLAND AVE	ENE 0 - 1/8 (0.053 mi.)	C6	51
JJP CONTRACT PACKAGI EPA ID: NYD002127041 EPA ID: NYP000776427	***711 NORTHLAND AVE***	***ENE 1/8 - 1/4 (0.141 mi.)***	***F24***	***115***
WELL-WORTH PRODUCTS EPA ID: NYR000248617	***180 DUTTON AVE***	***ENE 1/8 - 1/4 (0.161 mi.)***	***F27***	***204***
FRONTIER PLATING EPA ID: NYR000096024	***68 BUELL AVE***	***NW 1/8 - 1/4 (0.178 mi.)***	***G30***	***213***
USEPA - REGION II - EPA ID: NYD083530428	***537 E DELAVAN AVE***	***N 1/8 - 1/4 (0.187 mi.)***	***H36***	***245***
WEST METAL WORKS INC EPA ID: NYR000178764	***201 DUTTON AVE***	***ENE 1/8 - 1/4 (0.193 mi.)***	***I38***	***271***
DELAVAN AUTO PARTS EPA ID: NY0000142133	***505 E DELAVAN AVE***	***NNW 1/8 - 1/4 (0.207 mi.)***	***L50***	***336***
F M C CORP EPA ID: NYD986870079	***125 MOHICAN AVE***	***NW 1/8 - 1/4 (0.249 mi.)***	***68***	***448***

Lower Elevation	Address	Direction / Distance	Map ID	Page
NIAGARA MOHAWK A NAT EPA ID: NYP000968677	***1668 FILLMORE AVE***	***WNW 1/8 - 1/4 (0.129 mi.)***	***D21***	***97***
HEBELER PROCESS SOLU EPA ID: NYD096299292	***750 E FERRY ST***	***S 1/8 - 1/4 (0.197 mi.)***	***J40***	***282***
INTERNATIONAL MARINE EPA ID: NYR000100891	***812 E FERRY ST***	***SSE 1/8 - 1/4 (0.217 mi.)***	***M52***	***349***
SECONDARY SERVICES I EPA ID: NYR000021519	***757 E FERRY ST***	***SSE 1/8 - 1/4 (0.222 mi.)***	***K57***	***384***
NIAGARA MOHAWK A NAT EPA ID: NYP000968123	***4 CHELSEA PL***	***SSE 1/8 - 1/4 (0.231 mi.)***	***M66***	***435***
GOMCO DIV ALLIED HEA EPA ID: NYD085674497	***828 E FERRY ST***	***SSE 1/8 - 1/4 (0.233 mi.)***	***M67***	***438***

PA MANIFEST: Hazardous waste manifest information.

A review of the PA MANIFEST list, as provided by EDR, and dated 06/30/2018 has revealed that there are 2 PA MANIFEST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FRONTIER PLATING Generator EPA Id: NYR000096024	68 BUELL AVENUE	NW 1/8 - 1/4 (0.178 mi.)	G29	209
WISE METAL WORKS INC Generator EPA Id: NYR000178764	201 DUTTON ST	ENE 1/8 - 1/4 (0.193 mi.)	I37	266

NY VAPOR REOPENED: "Vapor intrusion" refers to the process by which volatile chemicals move from a subsurface source into the indoor air of overlying or adjacent buildings. The subsurface source can either be contaminated groundwater or contaminated soil which releases vapors into the pore spaces in the soil. Improvements in analytical techniques and knowledge gained from site investigations in New York and other states has led to an increased awareness of soil vapor as a medium of concern and of the potential for exposures from the soil vapor intrusion pathway. Based on this additional information, New York is currently re-evaluating previous assumptions and decisions regarding the potential for soil vapor intrusion exposures at sites. As a result, all past, current, and future contaminated sites will be evaluated to determine whether these sites have the potential for exposures related to soil vapor intrusion.

A review of the NY VAPOR REOPENED list, as provided by EDR, and dated 01/01/2022 has revealed that there is 1 NY VAPOR REOPENED site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
USEPA - REGION II - Facility Status: Complete Site Code: 915165	***537 E DELAVAN AVE***	***N 1/8 - 1/4 (0.187 mi.)***	***H36***	***245***

UST FINDER: EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

A review of the UST FINDER list, as provided by EDR, and dated 06/08/2023 has revealed that there are 5 UST FINDER sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NORTHLAND EAST LLC	683 NORTHLAND AVENUE	ENE 0 - 1/8 (0.053 mi.)	C12	82
WORLD SERIES OF SPOR	537 E DELAVAN AVE	N 1/8 - 1/4 (0.187 mi.)	H32	225
TEXAS GAS CONVENIENT	473 E DELAVAN AVE	NW 1/8 - 1/4 (0.229 mi.)	N58	411
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
ERIE COUNTY YOUTH DE	810 EAST FERRY STREE	SSE 1/8 - 1/4 (0.197 mi.)	K44	321
FERRY EXPRESS 5	1507 FILLMORE AVENUE	SSW 1/8 - 1/4 (0.230 mi.)	O62	420

EXECUTIVE SUMMARY

UST FINDER RELEASE: US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

A review of the UST FINDER RELEASE list, as provided by EDR, and dated 06/08/2023 has revealed that there are 20 UST FINDER RELEASE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SEARS WAREHOUSE	420 EAST DELAVAN	NW 1/4 - 1/2 (0.296 mi.)	Q79	478
CURTISS WRIGHT (FORM	60 GRIDER	ESE 1/4 - 1/2 (0.353 mi.)	T90	512
ATLANTIC	755 EAST DELAVAN STR	NE 1/4 - 1/2 (0.395 mi.)	U92	532
SUN #0364-1446	755 EAST DELAVAN AVE	NE 1/4 - 1/2 (0.395 mi.)	U93	533
SUN 0364-1446	755 EAST DELAVAN STR	NE 1/4 - 1/2 (0.395 mi.)	U94	533
A-PLUS MINI MARKET	755 EAST DELAVAN AVE	NE 1/4 - 1/2 (0.395 mi.)	U95	534
ATLANTIC	755 EAST DELAVAN AVE	NE 1/4 - 1/2 (0.395 mi.)	U96	535
A PLUS MINI MART	755 EAST DELAVAN	NE 1/4 - 1/2 (0.395 mi.)	U97	536
473 EAST DELEVAN INC	966 EAST FERRY STREE	ESE 1/4 - 1/2 (0.435 mi.)	V99	544
EAST SIDE AUTO SERVI	***966 EAST FERRY***	***ESE 1/4 - 1/2 (0.435 mi.)***	***V100***	***545***
MDM PETROLEUM	966 EAST FERRY STREE	ESE 1/4 - 1/2 (0.435 mi.)	V101	547
FORMER MDM PETROLEUM	966 EAST FERRY	ESE 1/4 - 1/2 (0.435 mi.)	V102	548
DEMOLITION SITE	776 EAST DELAVAN AVE	NE 1/4 - 1/2 (0.454 mi.)	104	557

Lower Elevation	Address	Direction / Distance	Map ID	Page
GEIGER ENTERPRIZES	1625 FILLMORE AVENUE	WSW 0 - 1/8 (0.111 mi.)	E17	94
VACANT WAREHOUSE TAN	812 EAST FERRY STREE	SSE 1/8 - 1/4 (0.217 mi.)	M54	377
CAMAIR INC	757 EAST FERRY STREE	SSE 1/8 - 1/4 (0.222 mi.)	K56	383
COLSTON'S MOBIL	1507 FILLMORE EAST F	SSW 1/8 - 1/4 (0.230 mi.)	O61	419
ATLANTIC REFINING	1500 FILLMORE	SSW 1/4 - 1/2 (0.251 mi.)	O70	458
ATLANTIC STATION	FERRY ST. & FILLMORE	SSW 1/4 - 1/2 (0.253 mi.)	O71	459
ATLANTIC A-PLUS	606 EAST FERRY STREE	SW 1/4 - 1/2 (0.326 mi.)	R86	507

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 3 EDR Hist Auto sites within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRATT GEO E FILLING	1669 FILLMORE AVE	WNW 0 - 1/8 (0.101 mi.)	D14	89
MIKES AUTO SERVICE	1625 FILLMORE AVE	WSW 0 - 1/8 (0.111 mi.)	E16	93

EXECUTIVE SUMMARY

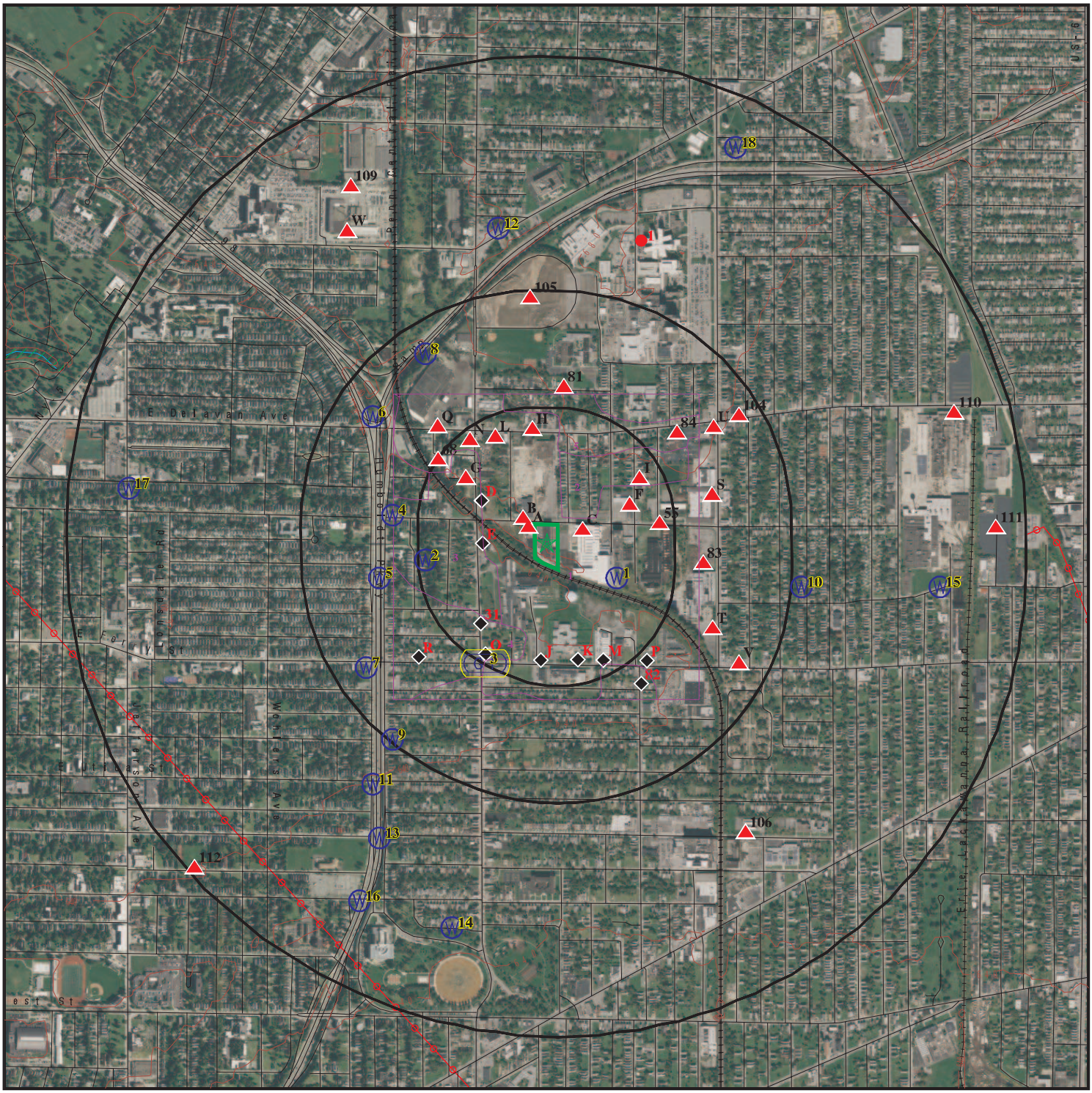
Lower Elevation	Address	Direction / Distance	Map ID	Page
JET AUTO SERVICE GAR	1649 FILLMORE AVE	W 0 - 1/8 (0.111 mi.)	E19	96

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 4 records.

Site Name	Database(s)
CMS ASSOCIATES, INC.	NY VAPOR REOPENED
664 - 690 NORTHLAND AVENUE	NY SHWS
OTIS ELEVATOR	NY SHWS
NYS THRUWAY EXIT 52	NY SHWS

OVERVIEW MAP - 7555240.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	631 Northland Avenue	CLIENT:	Ravi Engineering & Land Surveying, P.C.
ADDRESS:	631 Northland Avenue Buffalo NY 14211	CONTACT:	Lynn.zicari
LAT/LONG:	42.91832 / 78.836317	INQUIRY #:	7555240.2s
		DATE:	January 30, 2024 4:39 pm

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DETAIL MAP - 7555240.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	631 Northland Avenue	CLIENT:	Ravi Engineering & Land Surveying, P.C.
ADDRESS:	631 Northland Avenue Buffalo NY 14211	CONTACT:	Lynn.zicari
		INQUIRY #:	7555240.2s
LAT/LONG:	42.91832 / 78.836317	DATE:	January 30, 2024 4:40 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		1	1	0	NR	NR	2
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	1	NR	1
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	2	NR	NR	NR	2
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-VSQG	0.250		0	2	NR	NR	NR	2
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
NY SHWS	1.000		0	1	1	5	NR	7
Lists of state and tribal landfills and solid waste disposal facilities								
NY SWF/LF	0.500		0	3	0	NR	NR	3
Lists of state and tribal leaking storage tanks								
INDIAN LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NY LTANKS	0.500		1	5	12	NR	NR	18
NY HIST LTANKS	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
NY UST	0.250		2	4	NR	NR	NR	6
NY CBS UST	0.250		0	0	NR	NR	NR	0
NY MOSF UST	0.500		0	0	0	NR	NR	0
NY MOSF	0.500		0	0	0	NR	NR	0
NY CBS	0.250		0	2	NR	NR	NR	2
NY AST	0.250		1	8	NR	NR	NR	9
NY CBS AST	0.250		0	2	NR	NR	NR	2
NY MOSF AST	0.500		0	0	0	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
NY TANKS	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
NY RES DECL	0.125		0	NR	NR	NR	NR	0
NY ENG CONTROLS	0.500		1	0	1	NR	NR	2
NY INST CONTROL	0.500		1	0	1	NR	NR	2
Lists of state and tribal voluntary cleanup sites								
NY VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
NY BROWNFIELDS	0.500		1	1	2	NR	NR	4
NY ERP	0.500		0	0	1	NR	NR	1
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	1	NR	NR	1
Local Lists of Landfill / Solid Waste Disposal Sites								
NY SWTIRE	0.500		0	1	0	NR	NR	1
NY SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
NY DEL SHWS	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
NY HIST UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NY HIST AST	TP		NR	NR	NR	NR	NR	0
Local Land Records								
NY LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
NY Spills	0.125		5	NR	NR	NR	NR	5
NY Hist Spills	0.125		0	NR	NR	NR	NR	0
NY SPILLS 90	0.125		0	NR	NR	NR	NR	0
NY SPILLS 80	0.125		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		3	11	NR	NR	NR	14
FUDS	1.000		0	0	2	1	NR	3
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	1	0	0	NR	1
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	2	NR	NR	NR	2
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0
NY PFAS	0.250		0	0	NR	NR	NR	0
NY AIRS	TP		NR	NR	NR	NR	NR	0
NY COAL ASH	0.500		0	0	0	NR	NR	0
NY DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NY E DESIGNATION	0.125		0	NR	NR	NR	NR	0
NY Financial Assurance	TP		NR	NR	NR	NR	NR	0
NY HSWDS	0.500		0	0	1	NR	NR	1
NY LEAD	TP		NR	NR	NR	NR	NR	0
NY MANIFEST	0.250		3	13	NR	NR	NR	16
PA MANIFEST	0.250		0	2	NR	NR	NR	2
NY SPDES	TP		NR	NR	NR	NR	NR	0
NY VAPOR REOPENED	0.500		0	1	0	NR	NR	1
NY UIC	TP		NR	NR	NR	NR	NR	0
NY COOLING TOWERS	TP		NR	NR	NR	NR	NR	0
NY NYC LAND USE	TP		NR	NR	NR	NR	NR	0
NY MGP	1.000		0	0	0	0	NR	0
NY ILI	0.500		0	0	0	NR	NR	0
NY NYC OER	1.000		0	0	0	0	NR	0
UST FINDER	0.250		1	4	NR	NR	NR	5
UST FINDER RELEASE	0.500		1	3	16	NR	NR	20
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		3	NR	NR	NR	NR	3
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
NY RGA HWS	TP		NR	NR	NR	NR	NR	0
NY RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		0	24	70	39	7	0	140

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
< 1/8
1 ft.

CLEARING NIAGARA
637-97 NORTHLAND AVE
BUFFALO, NY 14211

NY MANIFEST **S121966697**
N/A

Site 1 of 2 in cluster A

Relative:
Higher

Actual:
642 ft.

Manifest Facility Information:

EPA ID:	NYD002101442
Country:	USA
Name:	CLEARING NIAGARA
Address:	637-97 NORTHLAND AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	683 NORTHLAND AVENUE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	CLEARING NIAGARA
Mailing Contact:	CLEARING NIAGARA
Mailing Address 1:	683 NORTHLAND AVENUE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168934070

Manifest Data:

Document ID:	NYC1054438
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	07/09/1991
Trans1 Recv Date:	07/09/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/09/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00172
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Document ID:	NYC5047582
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1998
Trans2 State ID:	NY33916AP
Generator Ship Date:	11/06/1998
Trans1 Recv Date:	01/01/1900
Trans2 Recv Date:	11/06/1998
TSD Site Recv Date:	11/10/1998
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	SCD987574647
Trans2 EPA ID:	ILD984908202
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Waste Code 6:	Not reported
Quantity:	01050
Units:	Pounds
Number of Containers:	003
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	NYC1545423
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1992
Trans2 State ID:	Not reported
Generator Ship Date:	04/09/1992
Trans1 Recv Date:	04/09/1992
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	04/09/1992
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00172
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Document ID:	NYC0685596
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	01/14/1991
Trans1 Recv Date:	01/14/1991
Trans2 Recv Date:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

TSD Site Recv Date:	01/14/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	TETRACHLOROETHYLENE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00172
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC2315136
Manifest Status:	Not reported
Trans1 State ID:	NYNA1635
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	05/25/1993
Trans1 Recv Date:	05/25/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/25/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00031
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NJA1952382
Manifest Status:	Not reported
Trans1 State ID:	NJDEPE086
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	04/21/1995
Trans1 Recv Date:	04/21/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	04/28/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00840
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYA9788027
Manifest Status:	C - Completed copy
Trans1 State ID:	000000000
Year:	1989
Trans2 State ID:	000000000
Generator Ship Date:	891201
Trans1 Recv Date:	891201
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	891201
Part A Recv Date:	891205
Part B Recv Date:	891206
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00086
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	100

Document ID:	NYA9720977
Manifest Status:	C - Completed copy
Trans1 State ID:	NYCL9286
Year:	1989
Trans2 State ID:	Not reported
Generator Ship Date:	890912

CLEARING NIAGARA (Continued) **S121966697**

Trans1 Recv Date:	890912
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	890912
Part A Recv Date:	890918
Part B Recv Date:	890919
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00131
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	100
Document ID:	NYG1984635
Manifest Status:	Not reported
Trans1 State ID:	133938ANY
Year:	2001
Trans2 State ID:	PP8404NY
Generator Ship Date:	04/09/2001
Trans1 Recv Date:	04/09/2001
Trans2 Recv Date:	04/16/2001
TSD Site Recv Date:	04/17/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	NYD986903904
TSDF ID 1:	OHD083377010
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	03000
Units:	Pounds
Number of Containers:	006
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00500
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 12:	IGNITABLE WASTE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00500
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Document ID:	NYG1984644
Manifest Status:	Not reported
Trans1 State ID:	133938ANY
Year:	2001
Trans2 State ID:	PP8404NY
Generator Ship Date:	04/09/2001
Trans1 Recv Date:	04/09/2001
Trans2 Recv Date:	04/16/2001
TSD Site Recv Date:	04/17/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	NYD986903904
TSDF ID 1:	OHD083377010
TSDF ID 2:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00500
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00500
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Document ID:	NYG1984662
Manifest Status:	Not reported
Trans1 State ID:	133938ANY
Year:	2001
Trans2 State ID:	Not reported
Generator Ship Date:	04/09/2001
Trans1 Recv Date:	04/09/2001
Trans2 Recv Date:	04/11/2001
TSD Site Recv Date:	04/20/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002101442
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	FLD980559728
TSDF ID 1:	GAD093380814
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported

CLEARING NIAGARA (Continued) **S121966697**

Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00110
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 7:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00110
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 12:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	02500
Units:	Pounds
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs

CLEARING NIAGARA (Continued) **S121966697**

Handling Method: Burn
Specific Gravity: 01.00

Click this hyperlink while viewing on your computer to access
46 additional NY MANIFEST: record(s) in the EDR Site Report.

A2 **DRUMS FOUND AT FIRE** **NY Spills** **S117267637**
NW **601 NORTHLAND** **N/A**
< 1/8 **BUFFALO, NY**
0.013 mi.
66 ft. **Site 2 of 2 in cluster A**

Relative: Higher

Actual: 640 ft.

SPILLS:

Name:	DRUMS FOUND AT FIRE
Address:	601 NORTHLAND
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1402816 / 2014-12-29
Facility ID:	1402816
Facility Type:	ER
DER Facility ID:	451012
Site ID:	496153
DEC Region:	9
Spill Cause:	Abandoned Drums
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2014-06-16
Investigator:	TDJOHNSO
Referred To:	Not reported
Reported to Dept:	2014-06-16
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Private Dwelling
Spill Notifier:	Fire Department
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	Not reported
Remediation Phase:	0
Date Entered In Computer:	2014-06-16
Spill Record Last Update:	2014-12-29
Spiller Name:	Not reported
Spiller Company:	MOHAMMED KHALIL
Spiller Address:	16 PERSHING
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	DISCOVERED DRUMS DURING A FIRE RESPONSE. WOULD LIKE THE DEPARTMENT TO RESPOND.
Remarks:	06/16/14 TDJ WENT TO LOCATION WHERE AN OLD COLLAPSED COMMERCIAL STRUCTURE BURNED DURING A FIRE AT AN ADJACENT COMMERCIAL BUILDING FIRE. APPROX. 10-12 (55) GALLON DRUMS WERE OBSERVED IN THE CENTER OF THE BURNT WOOD AND DEBRIS. ALL DRUMS WERE SCORCHED AND WERE BULGING ON BOTH ENDS. A FEW WERE MOVED AND APPEARED EMPTY BUT A FEW HAD XSOME LIQUIDS CONTAINED. NOTHING WAS LEAKING AND NO VAPORS WERE ESCAPING. THE BUILDING WAS DUE FOR DEMOLITION SO I ADVISED TO BEGIN THE REMOVAL OF DEBRIS AS PREVIOSLY PLANNED TO GET TO THE STAGED DRUMS. PROPERTY OWNER WILL SEE IF CONTRACTOR CAN DEAL WITH THE MOVEMENT AND POSSIBLE

DRUMS FOUND AT FIRE (Continued) **S117267637**

SAMPLING DRUM CONTENTS FOR DISPOSAL. PROPERTY OWNER ROB 716-208-7710 12/29/14 TDJ DRUMS FINALLY DUG OUT OF FIRE DAMAGE AFTER PURCHASER OF PROPERTY LEFT AREA AFTER FIRE. A FEW DRUMS WERE FUND WITH WATER AND OTHERS WERE EMPTY. WATER WAS EMPTIED AS UNCONTAMINATED INTO SEWER LINE. DRUMS SCRAPED BY CONTRACTOR. NO DISPOSAL NEEDED. NO FURTEHR ACTION FILE CLOSED TO ELECTRONIC ONLY

All Materials:

Site ID:	496153
Operable Unit ID:	1245648
Operable Unit:	01
Material ID:	2246670
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

B3 **BUFFALO POWDER COATING** **NY Spills** **1000912248**
NW **602 NORTHLAND AVE** **RCRA NonGen / NLR** **NY0000563684**
< 1/8 **BUFFALO, NY 14211** **FINDS**
0.028 mi. **ECHO**
150 ft. **Site 1 of 2 in cluster B** **NY MANIFEST**

Relative: **Higher**

Actual: **640 ft.**

SPILLS:

Name:	BUFFALO POWDER COATING
Address:	602 NORTHLAND
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9601211 / 1996-04-26
Facility ID:	9601211
Facility Type:	ER
DER Facility ID:	127245
Site ID:	149619
DEC Region:	9
Spill Cause:	Deliberate
Spill Class:	E6
SWIS:	1502
Spill Date:	1996-04-01
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1996-04-05
CID:	297
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	DEC
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	1996-04-09
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1996-04-24
Spill Record Last Update:	1996-05-06

BUFFALO POWDER COATING (Continued) **1000912248**

Spiller Name:	Not reported
Spiller Company:	BUFFALO POWDER COATING
Spiller Address:	537 EAST DELAVAN AVENUE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	A HOSE FROM BUFFALO POWDER COATING IS DISCHARGING TO A CATCH BASIN ON VIBRATECH SITE - VIBRATECH IS CLEANING UP UNDER CONSENT ORDER UNDER DHWR
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 4/5/96:SAC INSPECT,DID NOT FIND HOSE ON SURFACE,NO WATER FOUND RUNNING IN CATCH BASIN. 4/8/96:SAC SPOKE W/MAURICE MOORE/HWR,HOSE WAS UNDERNEATH SEWER GRATE, SAC TO RE-INSPECT. 4/9/96:SAC REINSPECT,GATE WAS LOCKED BLOCKING ENTRANCE,SAC SPOKE W/MAURICE MOORE/HWR,MR.MOORE WILL FOLLOW UP.

All Materials:

Site ID:	149619
Operable Unit ID:	1032775
Operable Unit:	01
Material ID:	351027
Material Code:	0063A
Material Name:	unknown hazardous material
Case No.:	Not reported
Material FA:	Hazardous Material
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Sewer
Oxygenate:	Not reported

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Buffalo Powder Coating
Handler Address:	NORTHLAND AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NY0000563684
Contact Name:	Not reported
Contact Address:	E DELAVAN AVE
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	E DELAVAN AVE
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Vibratech Inc
Owner Type:	Private

BUFFALO POWDER COATING (Continued) **1000912248**

Operator Name:	Vibratech Inc
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined
Waste Code:	D006
Waste Description:	Cadmium
Waste Code:	NONE
Waste Description:	None

Handler - Owner Operator:

Owner/Operator Indicator:	Operator

BUFFALO POWDER COATING (Continued) **1000912248**

Owner/Operator Name: VIBRATECH INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 537 E DELAVAN AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-895-8000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: VIBRATECH INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 537 E DELAVAN AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-895-8000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: VIBRATECH INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 537 E DELAVAN AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-895-8000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19960607
Handler Name: BUFFALO POWDER COATING
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: BUFFALO POWDER COATING
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

BUFFALO POWDER COATING (Continued) **1000912248**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: BUFFALO POWDER COATING
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940804
Handler Name: BUFFALO POWDER COATING
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported

BUFFALO POWDER COATING (Continued) **1000912248**

Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20100323
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYTRN
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

FINDS:
Registry ID: 110004318248

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000912248
Registry ID: 110004318248
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110004318248
Name: BUFFALO POWDER COATING
Address: 602 NORTHLAND AVE
City,State,Zip: BUFFALO, NY 14211

BUFFALO POWDER COATING (Continued) **1000912248**

Manifest Facility Information:

EPA ID:	NY0000563684
Country:	USA
Name:	BUFFALO POWDER COATINGS
Address:	602 NORTHLAND AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	537 EAST DELAVAN AVE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	BUFFALO POWDER COATINGS
Mailing Contact:	JAMES CUMMINGS
Mailing Address 1:	537 EAST DELAVAN AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168942278

Manifest Data:

Document ID:	MIA3615436
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	01/03/1995
Trans1 Recv Date:	01/03/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	01/06/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000563684
Trans1 EPA ID:	WVD063480065
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID096963194
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CADMIUM
Waste Code 2:	Not reported

BUFFALO POWDER COATING (Continued) **1000912248**

Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	02800
Units:	Pounds
Number of Containers:	014
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Document ID:	MIA2144597
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1994
Trans2 State ID:	Not reported
Generator Ship Date:	11/07/1994
Trans1 Recv Date:	11/07/1994
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/10/1994
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000563684
Trans1 EPA ID:	WVD063480065
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID096963194
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CADMIUM
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	02000
Units:	Pounds
Number of Containers:	010
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	01.00

B4
WNW
< 1/8
0.052 mi.
276 ft.

PHASE 2
577 NORTHLAND AVE
BUFFALO, NY

Site 2 of 2 in cluster B

NY Spills **S117974981**
N/A

Relative:
Lower

Actual:
638 ft.

SPILLS:

Name:	PHASE 2
Address:	577 NORTHLAND AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1503449 / 2016-09-14
Facility ID:	1503449
Facility Type:	ER
DER Facility ID:	464365
Site ID:	509751
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2015-06-29
Investigator:	TDJOHNSO
Referred To:	Not reported
Reported to Dept:	2015-06-29
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2015-06-29
Spill Record Last Update:	2016-09-14
Spiller Name:	Not reported
Spiller Company:	577 NORTHLAND TRUST
Spiller Address:	Not reported
Spiller Company:	999
Contact Name:	MAGGIE POPEK
DEC Memo:	Caller advised after phase 2 testing found petroleum in the soil along with a scent of petroleum. Clean up is pending. Caller advised tried to have the owner of the property call in the spill but they refused.
Remarks:	06/29/15 TDJ WHILE DIGGING TEST PITS ON COMMERCIAL PROPERTY UNKNOW UST WAS EXPOSED. FILL PORT WAS INVESTIGATED AND WAS FOUND TO CONTAIN MAINLY WATER WITH WEATHERED GASOLINE ODOR. SOIL AROUND TANK HAD ODOR OF WEATHERED GASOLINE. PID READINGS BETWEEN 10-20 PPM WAS FOUND IN SOIL. PHASE II IS BEING PERFORMED FOR SALE AND WILL BE OUT IN APPROX. 2 WEEKS FOR REVIEW. 11/09/15 TDJ SPOKE WITH MAGGIE POPEK WITH GZA ENVIRONMENTAL WHO SAID THEY ARE IN PROCESS OF CREATING WORK PLAN FOR CLIENT FOR REMOVAL OF CONTAMINATION ONSITE. THE BUDSIE PROGRAM FOR BUFFALO REDEVELOPMENT CURENTLY OWNS THE PROPERTY. SHE WILL ASK CLEINT TO SEND DEC RESULTS FOR PHASE II. 11/11/15 TDJ RECEIVED PHASE II FROM GZA WHICH SHOWED AN UNDERGROUND TANK IS ONSITE AND RESIDUAL SOIL CONTAMINATION WAS FOUND ABOVE CP-51 LIMITS. LETTER WAS CREATED FOR RESPONSIBLE PARTY CLEANUP OF THE FOUND CONTAMINATION. RESPONSE WAS SET AT 11/25/15. 11/17/15 TDJ RECEIVED E-MAIL FROM BUFFALO

PHASE 2 (Continued) **S117974981**

DEVELOPMENT REP. STATING THAT CONTRACTORS ARE BEING SET AND WORK PLAN SHOULD BE AVAIABLE FOR WORK TO BEGIN IN EARLY 2016. 05/23/16 TDJ WORK TO BEGIN ON TANK REMOVAL ON 5/24/16. DRUMS FOUND ONSITE AFTER FIRE TOTALLY GUTTED FACTORY STRUCTURE WILL BE EXAMINED ALSO. LABELLA ASSOCIATES WILL BE DIRECTING THE EXCAVATION WORK. 05/24/16 TDJ STOPPED AT LOCATION WHICH HAS BEEN TOTALLY CLEARED AND GRADED OVER. THE CITY CURRNTLY OWNS THE SITE AND WILL BE DEVELOPING THE SITE. THE EXCAVTION WAS BEGINNIG WHEN I HAD TO LEAVE TO VISIT ANOTHER SITE. 5/25/16 TDJ SPOKE WITH ANDREW BENLEMAN OF LABELLA WHO STATED 2000 GALLON TANK WAS FOUND WITH MAINLY WATER WITH A SHEEN. WATER WAS PUMPED OUT AND TANK REMOVED. SOME CONTAMINATION WAS IN THE PIT WHICH WAS COVERED WITH PLASTIC AND THE HOLE REFILLED UNTIL THE NEXT PHASE OF THE PROJECT BEGINS. TANK WAS CLEANED AND REMOVED FROM SITE. 9//14/16 TDJ WORK WAS COMPLETED IN THE TANK PIT. SOIL WAS EXCAVATED AND CONFIRMATORY SAMPLES WERE COLLECTED. NO GROUNDWATER WAS ENCOUNTERED. ALL SAMPLES WERE ND FOR CP-51 COMPOUNDS. A TOTAL OF 1,705 GALLONS OF PRODUCT AND WATER WAS DISPOSED AT AMERICAN RECYCLERS. A TOTAL OF 262 TON OF PETROLEUM CONTAMINATED SOIL WAS TAKEN TO TOWN OF TONAWANDA LANDFILL FOR DISPOSAL. SITE WORK WAS COMPLETED TO SATISFACTION OF DEC SITE MANAGER. NO FURTHER ACTION LETTER WILL BE SENT TO CLOSE SPILL. NO FURTHER ACTION FILE CLOSED TO ELECTRONIC ONLY

All Materials:

Site ID:	509751
Operable Unit ID:	1259031
Operable Unit:	01
Material ID:	2262267
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	Not reported
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

C5 **WESTERN NEW YORK WORKFORCE TRAINING CENTER** **NY INST CONTROL** **S123658140**
ENE **665 AND 683 NORTHLAND AVENUE** **N/A**
< 1/8 **BUFFALO, NY 14211**
0.053 mi.
279 ft. **Site 1 of 8 in cluster C**

Relative:
Higher

Actual:
645 ft.

INST CONTROL:

Name:	WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address:	665 AND 683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Site Code:	533504
Control Name:	Site Management Plan
HW Code:	C915310
Control Code:	32
Control Type:	INST
Dt record added:	12/10/2018
Dt rec updated:	12/27/2018
Updated By:	LSZINOMA
Site Code:	533504

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan

Health Problem: Measures are in place to properly manage human exposures to residual site contaminants.

Dump: False
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2016-11-10 12:49:00
Record Upd: 2019-05-22 14:20:00
Updated By: SMQUANDT

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Own Op: Document Repository
Sub Type: NNN
Owner Name: Not reported
Owner Company: Buffalo and Erie County Public Library - Central Branch
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: Monitoring Plan
HW Code: C915310
Control Code: 31
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan

Health Problem: Measures are in place to properly manage human exposures to residual site contaminants.

Dump: False
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2016-11-10 12:49:00
Record Upd: 2019-05-22 14:20:00
Updated By: SMQUANDT
Own Op: Document Repository
Sub Type: NNN
Owner Name: Not reported
Owner Company: Buffalo and Erie County Public Library - Central Branch
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: O&M Plan
HW Code: C915310
Control Code: 33
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem:	Measures are in place to properly manage human exposures to residual site contaminants.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2016-11-10 12:49:00
Record Upd:	2019-05-22 14:20:00
Updated By:	SMQUANDT
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Buffalo and Erie County Public Library - Central Branch
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
HW Code:	C915310
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	petroleum products

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: IC/EC Plan
HW Code: C915310

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Control Code: 34
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.
Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem: Measures are in place to properly manage human exposures to residual site contaminants.
Dump: False
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2016-11-10 12:49:00
Record Upd: 2019-05-22 14:20:00
Updated By: SMQUANDT
Own Op: Document Repository
Sub Type: NNN
Owner Name: Not reported
Owner Company: Buffalo and Erie County Public Library - Central Branch
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
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Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: Landuse Restriction
HW Code: C915310
Control Code: 25
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem:	Measures are in place to properly manage human exposures to residual site contaminants.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2016-11-10 12:49:00
Record Upd:	2019-05-22 14:20:00
Updated By:	SMQUANDT
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Buffalo and Erie County Public Library - Central Branch
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Rebecca Gandour

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: Soil Management Plan
HW Code: C915310
Control Code: 14
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag,

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan

Health Problem: Measures are in place to properly manage human exposures to residual site contaminants.

Dump: False
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2016-11-10 12:49:00
Record Upd: 2019-05-22 14:20:00
Updated By: SMQUANDT
Own Op: Document Repository
Sub Type: NNN
Owner Name: Not reported
Owner Company: Buffalo and Erie County Public Library - Central Branch
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: Ground Water Use Restriction
HW Code: C915310
Control Code: 08
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.
Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem: Measures are in place to properly manage human exposures to residual site contaminants.

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Dump: False
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2016-11-10 12:49:00
Record Upd: 2019-05-22 14:20:00
Updated By: SMQUANDT
Own Op: Document Repository
Sub Type: NNN
Owner Name: Not reported
Owner Company: Buffalo and Erie County Public Library - Central Branch
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

Name: WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address: 665 AND 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Site Code: 533504
Control Name: Environmental Easement
HW Code: C915310
Control Code: J
Control Type: INST
Dt record added: 12/10/2018
Dt rec updated: 12/27/2018
Updated By: LSZINOMA
Site Code: 533504
Site Description: Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features:

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan

Health Problem: Measures are in place to properly manage human exposures to residual site contaminants.

Dump: False
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2016-11-10 12:49:00
Record Upd: 2019-05-22 14:20:00
Updated By: SMQUANDT
Own Op: Document Repository
Sub Type: NNN
Owner Name: Not reported
Owner Company: Buffalo and Erie County Public Library - Central Branch
Owner Address: 1 Lafayette Square

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Rebecca Gandour
Owner Company: 683 Northland LLC
Owner Address: 95 Perry Street
Owner Addr2: Suite 404
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
HW Code: C915310
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: petroleum products
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: trichloroethene (TCE)
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915310
Waste Type: polychlorinated biphenyls (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYR000232587
Cross Ref Type Code: 06

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658140**

Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2017-12-14 08:13:00
Record Updated: 2017-12-14 08:13:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1788
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-19 16:33:00
Updated By: CRSTANIS
Crossref ID: C915310-12-16
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2018-11-29 10:02:00
Record Updated: 2018-11-29 10:02:00
Updated By: BJMCPHER
Crossref ID: Book 11338 and Page 1786
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2018-12-11 10:47:00
Record Updated: 2018-12-11 10:47:00
Updated By: BJMCPHER

C6 **683 NORTHLAND LLC** **NY MANIFEST** **S121968974**
ENE **683 NORTHLAND AVE** **N/A**
< 1/8 **BUFFALO, NY 14211**
0.053 mi.
279 ft. **Site 2 of 8 in cluster C**

Relative: **Higher**
Actual: **645 ft.**

Manifest Facility Information:

EPA ID:	NYR000232587
Country:	USA
Name:	683 NORTHLAND LLC
Address:	683 NORTHLAND AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	683 NORTHLAND AVE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	683 NORTHLAND LLC
Mailing Contact:	KRIS CHARNEY
Mailing Address 1:	690 DELAWARE AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14209
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7169704169

Manifest Data:

Document ID:	Not reported
Manifest Status:	Not reported

683 NORTHLAND LLC (Continued) **S121968974**

Trans1 State ID:	PAD987347515
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	09/08/2017
Trans1 Recv Date:	09/08/2017
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/11/2017
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000232587
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ALD000622464
TSDF ID 2:	Not reported
Manifest Tracking Number:	003450704GBF
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H132
Waste Code a:	Not reported
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	B007
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	20000
Units:	Kilograms
Number of Containers:	1
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	PAD987347516
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	09/11/2017
Trans1 Recv Date:	09/11/2017
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/13/2017
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000232587

683 NORTHLAND LLC (Continued) **S121968974**

Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ALD000622464
TSDF ID 2:	Not reported
Manifest Tracking Number:	003450705GBF
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	Y
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H132
Waste Code a:	Not reported
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	B007
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	15776
Units:	Kilograms
Number of Containers:	1
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	1

C7 **WESTERN NEW YORK WORKFORCE TRAINING CENTER** **NY ENG CONTROLS** **S123658122**
ENE **665 AND 683 NORTHLAND AVENUE** **N/A**
< 1/8 **BUFFALO, NY 14211**
0.053 mi.
279 ft. **Site 3 of 8 in cluster C**

Relative: **Higher**

Actual: **645 ft.**

ENG CONTROLS:

Name:	WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address:	665 AND 683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Site Code:	533504
HW Code:	C915310
Control Code:	36
Control Type:	ENG
Date Record Added:	12/10/2018
Date Rec Updated:	12/27/2018
Updated By:	LSZINOMA
Site Description:	Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features:

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem:	Measures are in place to properly manage human exposures to residual site contaminants.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2016-11-10 12:49:00
Record Upd:	2019-05-22 14:20:00
Updated By:	SMQUANDT
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Buffalo and Erie County Public Library - Central Branch
Owner Address:	1 Lafayette Square

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
HW Code:	C915310
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	petroleum products
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	cadmium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	copper
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	trichloroethene (TCE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polychlorinated biphenyls (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYR000232587
Cross Ref Type Code:	06

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

Cross Ref Type:	RCRA EPA ID No.
Record Added Date:	2017-12-14 08:13:00
Record Updated:	2017-12-14 08:13:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1788
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-19 16:33:00
Updated By:	CRSTANIS
Crossref ID:	C915310-12-16
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2018-11-29 10:02:00
Record Updated:	2018-11-29 10:02:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1786
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-11 10:47:00
Updated By:	BJMCPHER

Name:	WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address:	665 AND 683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Site Code:	533504
HW Code:	C915310
Control Code:	13
Control Type:	ENG
Date Record Added:	12/10/2018
Date Rec Updated:	12/27/2018
Updated By:	LSZINOMA
Site Description:	Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

	Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.
Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem:	Measures are in place to properly manage human exposures to residual site contaminants.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2016-11-10 12:49:00
Record Upd:	2019-05-22 14:20:00
Updated By:	SMQUANDT
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Buffalo and Erie County Public Library - Central Branch
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

HW Code:	C915310
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	petroleum products
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	cadmium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	copper
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	trichloroethene (TCE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polychlorinated biphenyls (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYR000232587
Cross Ref Type Code:	06
Cross Ref Type:	RCRA EPA ID No.
Record Added Date:	2017-12-14 08:13:00
Record Updated:	2017-12-14 08:13:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1788
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-19 16:33:00
Updated By:	CRSTANIS
Crossref ID:	C915310-12-16
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2018-11-29 10:02:00
Record Updated:	2018-11-29 10:02:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1786
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-11 10:47:00
Updated By:	BJMCPHER
Name:	WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address:	665 AND 683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Site Code:	533504
HW Code:	C915310
Control Code:	15
Control Type:	ENG
Date Record Added:	12/10/2018
Date Rec Updated:	12/27/2018
Updated By:	LSZINOMA
Site Description:	Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.
Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

Health Problem:	Measures are in place to properly manage human exposures to residual site contaminants.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2016-11-10 12:49:00
Record Upd:	2019-05-22 14:20:00
Updated By:	SMQUANDT
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Buffalo and Erie County Public Library - Central Branch
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
HW Code:	C915310
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	petroleum products
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	cadmium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	copper
Waste Quantity:	UNKNOWN

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658122**

Waste Code:	Not reported
HW Code:	C915310
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	trichloroethene (TCE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polychlorinated biphenyls (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYR000232587
Cross Ref Type Code:	06
Cross Ref Type:	RCRA EPA ID No.
Record Added Date:	2017-12-14 08:13:00
Record Updated:	2017-12-14 08:13:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1788
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-19 16:33:00
Updated By:	CRSTANIS
Crossref ID:	C915310-12-16
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2018-11-29 10:02:00
Record Updated:	2018-11-29 10:02:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1786
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-11 10:47:00
Updated By:	BJMCPHER

C8 **NIAGRA ME & TL WORKS** **NY Spills** **1000236468**
ENE **637-97 NORTHLAND AVE** **RCRA NonGen / NLR** **NYD002101442**
< 1/8 **BUFFALO, NY 14211** **FINDS**
0.053 mi. **ECHO**
279 ft. **Site 4 of 8 in cluster C**

Relative:
Higher

Actual:
645 ft.

SPILLS:

Name:	SWEENEY STEEL
Address:	683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0650390 / 2006-06-20
Facility ID:	0650390
Facility Type:	ER
DER Facility ID:	315609
Site ID:	365479
DEC Region:	9

NIAGRA ME & TL WORKS (Continued) **1000236468**

Spill Cause:	Equipment Failure
Spill Class:	D3
SWIS:	1502
Spill Date:	2006-06-14
Investigator:	JFOTTO
Referred To:	Not reported
Reported to Dept:	2006-06-15
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Affected Persons
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	2006-06-20
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2006-06-15
Spill Record Last Update:	2006-06-20
Spiller Name:	BALI SINGH
Spiller Company:	A&B STEEL-SHEARING & PROCESSING, INC.
Spiller Address:	3840 EAST OUTER DRIVE
Spiller Company:	001
Contact Name:	MIKE SWEENEY
DEC Memo:	PREVIOUS OWNER OF THE PROPERTY AND MACHINE SHOP BUSINESS SOLD PROPERTY TO MR. SWEENEY BUT SOLD THE EQUIPMENT TO A&B STEEL-SHEARING & PROCESSING. EQUIPMENT WAS LOADED INTO SHIPPING CONTAINERS AND ONTO TRAILERS IN THE PARKING LOT. EQUIPMENT IN ONE OF THE BOXES STARTED TO LEAK.
Remarks:	06/15/06 JFO ON SITE MET WITH KEVIN MARTIN AND BALI SINGH WITH A&B STEEL. THE SPILL WAS TO THE BLACKTOP IN THE PARKING LOT. THE SPILL IS <5 GALLONS. THE OIL HAS MOSTLY ABSORBED BUT MR SINGH WILL SPREAD SOME SPEEDY DRY AND SWEEP IT UP. I WILL CHECK SITE TOMORROW. 06/16/06 JFO CALL FROM BALI SINGH. HE HAS SPREAD THE SPEEDY DRY AND SWEPT IT UP. HE PLACED CLEANUP MATERIAL IN DUMPSTER. 06/20/06 JFO ON SITE NOA, THE SPILL IS CLEANED UP. NO FURTHER ACTION REQUIRED. CLOSED

All Materials:

Site ID:	365479
Operable Unit ID:	1123495
Operable Unit:	01
Material ID:	2112954
Material Code:	0010
Material Name:	hydraulic oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	2.00
Units:	G
Recovered:	.00
Resource Affected:	Impervious Surface
Oxygenate:	False

Name:	SWEENEY STEEL
Address:	683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0650390 / 2006-06-20

NIAGRA ME & TL WORKS (Continued) **1000236468**

Facility ID:	0650390
Facility Type:	ER
DER Facility ID:	315609
Site ID:	365479
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	D3
SWIS:	1502
Spill Date:	2006-06-14
Investigator:	JFOTTO
Referred To:	Not reported
Reported to Dept:	2006-06-15
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Affected Persons
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	2006-06-20
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2006-06-15
Spill Record Last Update:	2006-06-20
Spiller Name:	MIKE SWEENEY
Spiller Company:	SWEENEY STEEL
Spiller Address:	683 NORTHLAND AVENUE
Spiller Company:	999
Contact Name:	MIKE SWEENEY
DEC Memo:	PREVIOUS OWNER OF THE PROPERTY AND MACHINE SHOP BUSINESS SOLD PROPERTY TO MR. SWEENEY BUT SOLD THE EQUIPMENT TO A&B STEEL-SHEARING & PROCESSING. EQUIPMENT WAS LOADED INTO SHIPPING CONTAINERS AND ONTO TRAILERS IN THE PARKING LOT. EQUIPMENT IN ONE OF THE BOXES STARTED TO LEAK.
Remarks:	06/15/06 JFO ON SITE MET WITH KEVIN MARTIN AND BALI SINGH WITH A&B STEEL. THE SPILL WAS TO THE BLACKTOP IN THE PARKING LOT. THE SPILL IS <5 GALLONS. THE OIL HAS MOSTLY ABSORBED BUT MR SINGH WILL SPREAD SOME SPEEDY DRY AND SWEEP IT UP. I WILL CHECK SITE TOMORROW. 06/16/06 JFO CALL FROM BALI SINGH. HE HAS SPREAD THE SPEEDY DRY AND SWEPT IT UP. HE PLACED CLEANUP MATERIAL IN DUMPSTER. 06/20/06 JFO ON SITE NOA, THE SPILL IS CLEANED UP. NO FURTHER ACTION REQUIRED. CLOSED

All Materials:

Site ID:	365479
Operable Unit ID:	1123495
Operable Unit:	01
Material ID:	2112954
Material Code:	0010
Material Name:	hydraulic oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	2.00
Units:	G
Recovered:	.00
Resource Affected:	Impervious Surface
Oxygenate:	False

NIAGRA ME & TL WORKS (Continued) **1000236468**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Niagra Me & Tl Works
Handler Address:	NORTHLAND AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYD002101442
Contact Name:	HCONTFIRST HCONTLAST
Contact Address:	PO BOX 475
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	212-555-1212
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	PO BOX 475
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Ownername
Owner Type:	Private
Operator Name:	Ownername
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No

NIAGRA ME & TL WORKS (Continued) **1000236468**

Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	X002
Waste Description:	Not Defined

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: OWNERNAME	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, WY 99999
Owner/Operator Telephone:	212-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: OWNERNAME	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, WY 99999
Owner/Operator Telephone:	212-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: OWNERNAME	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, WY 99999
Owner/Operator Telephone:	212-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20060101

NIAGRA ME & TL WORKS (Continued) **1000236468**

Handler Name: NIAGRA ME & TL WORKS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: NIAGRA ME & TL WORKS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19850415
Handler Name: NIAGRA ME & TL WORKS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 333512
NAICS Description: MACHINE TOOL (METAL CUTTING TYPES) MANUFACTURING

NAICS Code: 333513
NAICS Description: MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19941205
Actual Return to Compliance Date: 19950113
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19950108
Enforcement Identifier: 000
Date of Enforcement Action: 19941205

NIAGRA ME & TL WORKS (Continued) **1000236468**

Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: NY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYNSL
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 19941117
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYNSL
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: 19950113
Scheduled Compliance Date: 19950108
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

FINDS:
Registry ID: 110004338262

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

NIAGRA ME & TL WORKS (Continued) **1000236468**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000236468
Registry ID:	110004338262
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110004338262
Name:	NIAGRA ME & TL WORKS
Address:	637-97 NORTHLAND AVE
City,State,Zip:	BUFFALO, NY 14211

C9 **WESTERN NY WORKFORCE TRAINING CENTER** **NY UST U004063771**
ENE **683 NORTHLAND AVENUE** **NY AST N/A**
< 1/8 **BUFFALO, NY 14211**
0.053 mi.
279 ft. **Site 5 of 8 in cluster C**

Relative: Higher

Actual: 645 ft.

UST:

Name:	WESTERN NY WORKFORCE TRAINING CENTER
Address:	683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Id/Status:	9-002607 / Unregulated/Closed
Program Type:	PBS
Region:	STATE
DEC Region:	9
Expiration Date:	N/A
UTM X:	187041.86449
UTM Y:	4758851.50257
Site Type:	Manufacturing (Other than Chemical)/Processing

Affiliation Records:

Site Id:	51857
Affiliation Type:	Emergency Contact
Company Name:	683 NORTHLAND LLC
Contact Type:	Not reported
Contact Name:	PETER CAMMARATA
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(716) 856-6525
EMail:	Not reported
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Site Id:	51857
Affiliation Type:	Facility Owner
Company Name:	683 NORTHLAND LLC
Contact Type:	PRESIDENT
Contact Name:	PETER CAMMARATA
Address1:	95 PERRY ST.
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14203

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Country Code:	001
Phone:	(716) 877-7100
EMail:	PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Site Id:	51857
Affiliation Type:	Facility Operator
Company Name:	NORTHLAND EAST LLC
Contact Type:	Not reported
Contact Name:	683 NORTHLAND LLC
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 856-6525
EMail:	Not reported
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Site Id:	51857
Affiliation Type:	Mail Contact
Company Name:	BUFFALO URBAN DEVELOPMENT CORP.
Contact Type:	PRESIDENT
Contact Name:	PETER CAMMARATA
Address1:	95 PERRY ST.
Address2:	SUITE404
City:	BUFFALO
State:	NY
Zip Code:	14203
Country Code:	001
Phone:	(716) 856-6525
EMail:	PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Tank Info:

Tank Number:	1
Tank ID:	160013
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	23380
Install Date:	08/01/1954
Date Tank Closed:	09/13/2018
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	0003
Common Name of Substance:	#6 Fuel Oil (On-Site Consumption)

Tightness Test Method:	-

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

H00 - Tank Leak Detection - None
L09 - Piping Leak Detection - Exempt Suction Piping
A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
I04 - Overfill - Product Level Gauge (A/G)
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
J02 - Dispenser - Suction Dispenser
G00 - Tank Secondary Containment - None

Tank Number: 10
Tank ID: 160021
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 10000
Install Date: 06/01/1940
Date Tank Closed: 06/25/1990
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Material Code: 9999
Common Name of Substance: Other

Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

H00 - Tank Leak Detection - None
I00 - Overfill - None
A00 - Tank Internal Protection - None
D00 - Pipe Type - No Piping
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Number: 2
Tank ID: 160014
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 23380
Install Date: 08/01/1954
Date Tank Closed: 09/14/2018

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Material Code: 0003
Common Name of Substance: #6 Fuel Oil (On-Site Consumption)

Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
H00 - Tank Leak Detection - None
L09 - Piping Leak Detection - Exempt Suction Piping
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
I04 - Overfill - Product Level Gauge (A/G)
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Number: 3
Tank ID: 160015
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 23380
Install Date: 08/01/1954
Date Tank Closed: 09/17/2018
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Material Code: 0003
Common Name of Substance: #6 Fuel Oil (On-Site Consumption)

Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
H00 - Tank Leak Detection - None
L09 - Piping Leak Detection - Exempt Suction Piping
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser
I04 - Overfill - Product Level Gauge (A/G)

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Tank Number:	4
Tank ID:	160016
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	1000
Install Date:	07/01/1947
Date Tank Closed:	01/01/1990
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

H00 - Tank Leak Detection - None
I00 - Overfill - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
B00 - Tank External Protection - None
J02 - Dispenser - Suction Dispenser
G00 - Tank Secondary Containment - None

Tank Number:	5
Tank ID:	160017
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	1000
Install Date:	05/01/1969
Date Tank Closed:	01/01/1990
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

H00 - Tank Leak Detection - None
I00 - Overfill - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Number:	6
Tank ID:	160018
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	1000
Install Date:	06/01/1979
Date Tank Closed:	01/01/1990
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	0008
Common Name of Substance:	Diesel
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
H00 - Tank Leak Detection - None
I00 - Overfill - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Number:	7
Tank ID:	160019
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	1800
Install Date:	07/01/1981
Date Tank Closed:	09/09/2018
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	9999
Common Name of Substance:	Other
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Equipment Records:

D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
I04 - Overfill - Product Level Gauge (A/G)
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
H04 - Tank Leak Detection - Groundwater Well
B00 - Tank External Protection - None
J02 - Dispenser - Suction Dispenser
G00 - Tank Secondary Containment - None

Tank Number:	8
Tank ID:	160020
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	1800
Install Date:	07/01/1981
Date Tank Closed:	09/09/2018
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	9999
Common Name of Substance:	Other
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser
I04 - Overfill - Product Level Gauge (A/G)
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
H04 - Tank Leak Detection - Groundwater Well
A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron

AST:

Name:	WESTERN NY WORKFORCE TRAINING CENTER
Address:	683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Region:	STATE
DEC Region:	9
Site Status:	Unregulated/Closed
Facility Id:	9-002607
Program Type:	PBS
UTM X:	187041.86449
UTM Y:	4758851.50257
Expiration Date:	N/A
Site Type:	Manufacturing (Other than Chemical)/Processing

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Affiliation Records:

Site Id:	51857
Affiliation Type:	Emergency Contact
Company Name:	683 NORTHLAND LLC
Contact Type:	Not reported
Contact Name:	PETER CAMMARATA
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(716) 856-6525
EMail:	Not reported
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Site Id:	51857
Affiliation Type:	Facility Owner
Company Name:	683 NORTHLAND LLC
Contact Type:	PRESIDENT
Contact Name:	PETER CAMMARATA
Address1:	95 PERRY ST.
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14203
Country Code:	001
Phone:	(716) 877-7100
EMail:	PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Site Id:	51857
Affiliation Type:	Facility Operator
Company Name:	NORTHLAND EAST LLC
Contact Type:	Not reported
Contact Name:	683 NORTHLAND LLC
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 856-6525
EMail:	Not reported
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Site Id:	51857
Affiliation Type:	Mail Contact
Company Name:	BUFFALO URBAN DEVELOPMENT CORP.
Contact Type:	PRESIDENT
Contact Name:	PETER CAMMARATA

WESTERN NY WORKFORCE TRAINING CENTER (Continued) **U004063771**

Address1:	95 PERRY ST.
Address2:	SUITE404
City:	BUFFALO
State:	NY
Zip Code:	14203
Country Code:	001
Phone:	(716) 856-6525
EMail:	PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2019-02-14

Tank Info:

Tank Number:	11
Tank Id:	169921
Material Code:	9999
Common Name of Substance:	Other

Equipment Records:

	G04 - Tank Secondary Containment - Double-Walled (Underground)
	F00 - Pipe External Protection - None
	C01 - Pipe Location - Aboveground
	I04 - Overfill - Product Level Gauge (A/G)
	G03 - Tank Secondary Containment - Vault (w/o access)
	I02 - Overfill - High Level Alarm
	L09 - Piping Leak Detection - Exempt Suction Piping
	A00 - Tank Internal Protection - None
	B01 - Tank External Protection - Painted/Asphalt Coating
	D01 - Pipe Type - Steel/Carbon Steel/Iron
	H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
	J02 - Dispenser - Suction Dispenser
Tank Location:	Aboveground in subterranean vault with access for inspections.....
	Tank in subterranean vault but accessible for inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	05/01/1990
Capacity Gallons:	6000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	09/09/2018
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	other

C10
ENE
< 1/8
0.053 mi.
279 ft.

WESTERN NEW YORK WORKFORCE TRAINING CENTER
665 AND 683 NORTHLAND AVENUE
BUFFALO, NY 14211

Site 6 of 8 in cluster C

NY BROWNFIELDS **S123658082**
N/A

Relative:
Higher

Actual:
645 ft.

BROWNFIELDS:

Name:	WESTERN NEW YORK WORKFORCE TRAINING CENTER
Address:	665 AND 683 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Program:	BCP
Site Code:	533504
Acres:	8.548
HW Code:	C915310
SWIS:	1502
Town:	Buffalo (c)
Record Added Date:	10/12/2016
Record Updated Date:	09/21/2022
Update By:	AECAPRIO
Site Description:	Location: The Western New York Workforce Training Center is an 8.548-acre site located in an urban area at 683 Northland Avenue in the City of Buffalo, Erie County. The site is bounded by Northland Avenue to the north, a railroad spur to the south and commercial/industrial properties to the east and west. Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation. Current Zoning and Land Use: The site and adjacent parcels are zoned for industrial use. The site is partially redeveloped as the WNY Workforce Training Center in the northern portion of the building, with a portion of the remaining building occupied by Buffalo Manufacturing Works. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site. Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment that led to the present site contamination. The building has had several additions and upgrades since its initial construction. The property was most recently used for storage until it was purchased by the current owner in 2015. Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.
Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Remedial actions have successfully achieved site specific soil

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658082**

	cleanup objectives for commercial use. Residual contamination in the soil, bedrock, and soil vapor is being managed under a Site Management Plan
Health Problem:	Measures are in place to properly manage human exposures to residual site contaminants.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2016-11-10 12:49:00
Record Upd:	2019-05-22 14:20:00
Updated By:	SMQUANDT
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Buffalo and Erie County Public Library - Central Branch
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Rebecca Gandour
Owner Company:	683 Northland LLC
Owner Address:	95 Perry Street
Owner Addr2:	Suite 404
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
HW Code:	C915310
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	petroleum products
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	cadmium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported

WESTERN NEW YORK WORKFORCE TRAINING CENTER (Continued) **S123658082**

HW Code:	C915310
Waste Type:	copper
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polycyclic aromatic hydrocarbons (PAHS), total
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	trichloroethene (TCE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915310
Waste Type:	polychlorinated biphenyls (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYR000232587
Cross Ref Type Code:	06
Cross Ref Type:	RCRA EPA ID No.
Record Added Date:	2017-12-14 08:13:00
Record Updated:	2017-12-14 08:13:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1788
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-19 16:33:00
Updated By:	CRSTANIS
Crossref ID:	C915310-12-16
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2018-11-29 10:02:00
Record Updated:	2018-11-29 10:02:00
Updated By:	BJMCPHER
Crossref ID:	Book 11338 and Page 1786
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2018-12-11 10:47:00
Record Updated:	2018-12-11 10:47:00
Updated By:	BJMCPHER

C11 **683 NORTHLAND LLC** **RCRA NonGen / NLR** **1023679280**
ENE **683 NORTHLAND AVE** **NYR000232587**
< 1/8 **BUFFALO, NY 14211**
0.053 mi.
279 ft. **Site 7 of 8 in cluster C**

Relative: **Higher**
Actual: **645 ft.**

RCRA Listings:

Date Form Received by Agency:	20180813
Handler Name:	683 Northland Llc
Handler Address:	NORTHLAND AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYR000232587
Contact Name:	JASON J COLVIN

683 NORTHLAND LLC (Continued) **1023679280**

Contact Address:	DELAWARE AVE
Contact City,State,Zip:	BUFFALO, NY 14209
Contact Telephone:	716-882-5476 448
Contact Fax:	716-882-9640
Contact Email:	COLVINJ@LIRO.COM
Contact Title:	ENVIRONMENTAL CONSULTANT
EPA Region:	02
Land Type:	Municipal
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	PERRY ST SUITE 404
Mailing City,State,Zip:	BUFFALO, NY 14203
Owner Name:	683 Northland Llc
Owner Type:	Municipal
Operator Name:	683 Northland Llc
Operator Type:	Municipal
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180813
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No

683 NORTHLAND LLC (Continued) **1023679280**

Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Hazardous Waste Summary:
Waste Code: D008
Waste Description: Lead

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: 683 NORTHLAND LLC
Legal Status: Municipal
Date Became Current: 20161219
Date Ended Current: Not reported
Owner/Operator Address: 95 PERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14203
Owner/Operator Telephone: 716-362-8361
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: 683 NORTHLAND LLC
Legal Status: Municipal
Date Became Current: 20161219
Date Ended Current: Not reported
Owner/Operator Address: 95 PERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14203
Owner/Operator Telephone: 716-362-8361
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM

Owner/Operator Indicator: Operator
Owner/Operator Name: 683 NORTHLAND LLC
Legal Status: Municipal
Date Became Current: 20161219
Date Ended Current: Not reported
Owner/Operator Address: 95 PERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14203
Owner/Operator Telephone: 716-362-8361
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM

Owner/Operator Indicator: Operator
Owner/Operator Name: 683 NORTHLAND LLC
Legal Status: Municipal
Date Became Current: 20161219
Date Ended Current: Not reported
Owner/Operator Address: 95 PERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14203
Owner/Operator Telephone: 716-362-8361
Owner/Operator Telephone Ext: Not reported

683 NORTHLAND LLC (Continued) **1023679280**

Owner/Operator Fax: Not reported
Owner/Operator Email: PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM

Historic Generators:
Receive Date: 20180813
Handler Name: 683 NORTHLAND LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20170713
Handler Name: 683 NORTHLAND LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 423830
NAICS Description: INDUSTRIAL MACHINERY AND EQUIPMENT MERCHANT WHOLESALERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C12 **NORTHLAND EAST LLC** **UST FINDER** **1028595255**
ENE **683 NORTHLAND AVENUE** **N/A**
< 1/8 **BUFFALO, NY 14211**
0.053 mi.
279 ft. **Site 8 of 8 in cluster C**

Relative:
Higher

Actual:
645 ft.

UST FINDER:
Object ID: 315922
Facility ID: NY51857
Name: NORTHLAND EAST LLC
Address: 683 NORTHLAND AVENUE
City,State,Zip: BUFFALO, NY 14211
Address Match Type: Not reported
Open USTs: 3
Closed USTs: 4

NORTHLAND EAST LLC (Continued) **1028595255**

TOS USTs:	2
Population 1500ft:	434
Private Wells 1500ft:	0
Within 100yr Floodplain:	No
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Facility Status:	Open UST(s)
Date of Last Inspection:	Not reported
EPA Region:	2
Tribe:	Not reported
Coordinate Source:	State
X Coord:	-78.834282
Y Coord:	42.9181100000001
Latitude:	42.91811
Longitude:	-78.834282

UST FINDER:

Object ID:	1301140
Facility ID:	NY51857
Tank ID:	NY87272
Tank Status:	Closed
Installation Date:	1969/05/01 16:00:01+00
Removal Date:	Not reported
Tank Capacity:	1000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301141
Facility ID:	NY51857
Tank ID:	NY88404
Tank Status:	Closed
Installation Date:	1947/07/01 16:00:01+00
Removal Date:	Not reported
Tank Capacity:	1000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301142
Facility ID:	NY51857
Tank ID:	NY95946
Tank Status:	Closed
Installation Date:	1940/06/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	10000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301143
Facility ID:	NY51857

NORTHLAND EAST LLC (Continued) **1028595255**

Tank ID:	NY120363
Tank Status:	Closed
Installation Date:	1979/06/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	1000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301144
Facility ID:	NY51857
Tank ID:	NY91949
Tank Status:	Temporarily out of Service
Installation Date:	1954/08/01 16:00:01+00
Removal Date:	Not reported
Tank Capacity:	23380
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301145
Facility ID:	NY51857
Tank ID:	NY91950
Tank Status:	Temporarily out of Service
Installation Date:	1954/08/01 16:00:01+00
Removal Date:	Not reported
Tank Capacity:	23380
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301146
Facility ID:	NY51857
Tank ID:	NY91951
Tank Status:	Open
Installation Date:	1981/07/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	1800
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301147
Facility ID:	NY51857
Tank ID:	NY91952
Tank Status:	Open
Installation Date:	1981/07/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	1800
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1301148
Facility ID:	NY51857
Tank ID:	NY95876
Tank Status:	Open
Installation Date:	1954/08/01 16:00:01+00
Removal Date:	Not reported
Tank Capacity:	23380
Substances:	Not reported
Tank Wall Type:	Not reported

D13 **COMMERCIAL** **NY Spills** **S118706771**
WNW **1669 FILLMORE AVE** **N/A**
< 1/8 **BUFFALO, NY**
0.101 mi.
533 ft. **Site 1 of 5 in cluster D**

Relative: **Lower**

Actual: **638 ft.**

SPILLS:

Name:	COMMERCIAL
Address:	1669 FILLMORE AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1603929 / 2021-07-15
Facility ID:	1603929
Facility Type:	ER
DER Facility ID:	484499
Site ID:	530414
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2016-07-18
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	2016-07-21
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2016-07-21
Spill Record Last Update:	2021-07-15
Spiller Name:	Not reported
Spiller Company:	1669 FILLMORE AVE
Spiller Address:	Not reported
Spiller Company:	999
Contact Name:	CHRISTIE
DEC Memo:	found contamination in test pit/sample taken, waiting on sample results
Remarks:	7/21/16 THIS IS A CITY OF BUFFALO PROPERTY. THEY WERE PLANNING TO DO WORK ON THE PROPERTY. CORE ENVIRO DID A GEOPHYSICAL AND FOUND ANOMALIES. WHILE EXCAVATING AT ABOUT 2.5 FTBGS. SAMPLES WERE COLLECTED AND WILL BE BACK IN ABOUT TWO WEEKS. CLARK PATTERSON, CHRISTIE NELSON IS COORDINATING WITH THE CITY OF BUFFALO AND SHE SOULD BE THE POINT OF CONTACT. 7/22/16 From: Jennifer Michniewicz [mailto:JMichniewicz@ClarkPatterson.com] Sent: Friday, July 22, 2016 4:01 PM To: Gallego, Francine (DEC) ; Sutton, Dennis ; Sheila Ransbottom Subject: FW: Spill 1603929 1149 Fillmore According to this email chain, it looks like there may be some confusion. To clarify, CORE is a Subconsultant to Clark Patterson Lee. Sheila Ransbottom is the project manager with CORE. I have cc d her and her phone number is (716) 204-8054. I am the project manager for Clark Patterson Lee and my contact info is below. Jennifer L. Michniewicz, P.E., PTOE Principal Associate Direct: 716.218.4747 Cell: 716.939.0792 Clark Patterson Lee Office: 800.274.9000 www.clarkpattersonlee.com 7/28/16 FG SPOKE TO JOHN BIDELL WITH THE CITY OF BUFFALO. HE SAID THAT THEY

COMMERCIAL (Continued) **S118706771**

WILL COMPLETE A SITE ASSESSMENT AND WOULD LIKE TO REMOVE THE USTS AND CONTAMINATION WHEN THEY DO ROAD CONSTRUCTION NEXT MAY TO AUGUST. 8/18/16 CORE ENVIRONMENTAL PROVIDED THE DOCUMENTATION IDENTIFYING THE USTS ON SITE. FG SPOKE TO ALISSA CROOKSHANK 204-8054 WITH CORE. FG TOLD HER THAT THE DEPARTMENT WILL REQUIRE A SITE ASSESSMENT NOW AND WILL ALLOW THE REMOVAL DURING ROAD WORK. CORE WILL PROVIDE THE ANALYTICAL FOR THE SITE. CORE PROVIDED THE TEST PIT ANALYTICAL. TP3, TP3-2 AND TP4 WERE THE LOCATIONS WHERE IMPACTS WERE IDENTIFIED AND THE SAMPLES FROM THESE LOCATIONS EXCEED CP51. FG NOTIFIED THE CITY THAT A SITE ASSESSMENT WOULD NEED TO BE COMPLETED TO DETERMINE THE EXTENT. 9/22/16 FG PHONE MEETING WITH CITY OF BUFFALO AND CORE ENVIRONMENTAL. BUDC IS NOT DOING THE ROADWORK ANY LONGER. THEY WILL PLAN TO DO AN ASSESSMENT AND GET ME A WORKPLAN. 12/8/16 CORE ENVIRONMENTAL SUBMITTED THE WORK PLAN FOR THE SITE. THEY PLAN TO COMPLETE 10 BORINGS SURROUNDING THE UST'S DISCOVERED. THEY WILL ANALYZE ONE SAMPLE PER BORING AND SUBMIT A REPORT OF FINDINGS. 12/16/16 THE CITY OF BUFFALO HAS SCHEDULED THE SUBSURFACE INVESTIGATION FOR JAN 4 & 5 2017. 3/10/17 CORE ENVIRONMENTAL SUBMITTED THE SUBSURFACE INVESTIGATION FOR THE SITE. AN UST AND PETROLEUM IMPACTED SOIL WAS DISCOVERED. THE REPORT IDENTIFIES THE AREA OF IMPACTS FOR REMOVAL. 3/17/17 CORE ENVIRONMENTAL SAID THAT THE CITY WILL GET IN TOUCH WITH THE DEPARTMENT REGARDING REMEDIATION OF THE SITE. THE CITY PROVIDED THE FOLLOWING EMAIL INDICATING WORK WILL BEGIN THIS SUMMER: From: Paananen,Jason A. [mailto:jpaananen@ch.ci.buffalo.ny.us] Sent: Friday, March 17, 2017 4:24 PM To: Gallego, Francine (DEC) Cc: Jennifer Michniewicz (JMichniewicz@ClarkPatterson.com) ; Bidell,John ; Finn,Michael J. ; sransbottom@coreenv.com; Alyssa Cruikshank Subject: RE: 1669 Fillmore Avenue Subsurface Investigation Francine, The City is estimating that work may commence at the beginning of June and be completed by the end of July. The timeframe for remediation will vary based on the bids, but work should be completed this Summer. I ll keep you posted once we have a more definitive schedule. Let me know if you have any questions or comments. Thanks, Jason Paananen, AICP Director of Environmental Affairs City of Buffalo Mayor s Office of Strategic Planning 901 City Hall Buffalo, NY 14202 716-851-5406 7/11/17 The City of Buffalo provided an update: Good morning. Just following up with you from our conversation Friday. The City is currently in the process of preparing to transfer the land over to the Buffalo Urban Development Corporation. Once the land is transferred to them I will request a revised timeframe for the work. I still think it will occur this summer but I will provide you with more information once I know more. Thanks, Jason Paananen, AICP Director of Environmental Affairs City of Buffalo Mayor s Office of Strategic Planning 901 City Hall Buffalo, NY 14202 716-851-5406 1/19/18 FG requested an update from Jason Paanenan with the City of Buffalo. 1/22/18 Hi Francine, I am awaiting the Law Department s review of Vermont Street as the tanks were permitted to the previous owner of the property. Let me check with them on the status. I will follow-up with BUDC on the Fillmore property as they were supposed to be starting work on that once the real estate contract was completed with the City. There might have been an issue with the contract so let me see what the delay is. Thanks, Jason Paananen, AICP Director of Environmental Affairs City of Buffalo Mayor s Office of Strategic Planning 901 City Hall Buffalo, NY 14202 716-851-5406 2/2/18 Hi Francine, Sorry for the delay. In regards to 1669 Fillmore Avenue, BUDC is finalizing contracts between the City and the property should be transferred to

COMMERCIAL (Continued) **S118706771**

them in the next month as there was an issue with lot combinations as part of the Northland project. Once this happens they should begin work in early spring to remove the tank and contaminated soil. I will keep you posted as this progresses. Thanks, Jason Paananen, AICP Director of Environmental Affairs City of Buffalo Mayor s Office of Strategic Planning 901 City Hall Buffalo, NY 14202 716-851-5406 7/24/18 Hi Francine, I forwarded your request to Mike Finn at DPW on Friday so hopefully I will hear back this week. I know he had to run the options by his boss before a decision was made. I ll let you know once I receive an answer. Thanks, Jason Paananen, AICP Director of Environmental Affairs City of Buffalo Mayor s Office of Strategic Planning 901 City Hall Buffalo, NY 14202 716-851-5406 9/19/18 FG requested an update from Jason Paananen. 9/21/18 From: Peter Cammarata [mailto:pcammarata@buffalourbandevelopment.com] Sent: Thursday, September 20, 2018 4:48 PM To: Paananen,Jason A ; Finn,Michael J ; Heffron,John ; 'John Heffron' Subject: RE: 449-451 Vermont St, 1669 Fillmore Jason: I don t know if my participation would be helpful at this point. The land swap where we would be acquiring 1669 is not imminent. BURA still has to acquire the properties (including 1669) from the City, before we can move forward with the swap. I can t provide any concrete timeline for Francine until we close on the property, although we do intend to move forward with any issues on the property quickly at that point. PMC Peter M. Cammarata President Buffalo Urban Development Corp. 95 Perry St., Suite 404 Buffalo, NY 14203 716-362-8361 pcammarata@buffalourbandevelopment.com 11/9/18 ROE letter sent to the City requesting access. Response is due 11/29/18 12/7/18 City of Buffalo, Finn indicated that BUDC will be completing the remediation once the real estate transfer is completed. 1/14/19 Peter Cammarata called and indicated the BUDC property transfer is expected to happen by March. As soon as it does, they plan to begin the remediation. They will keep the Department updated. 8/28/19 From: Peter Cammarata Sent: Wednesday, August 28, 2019 11:41 AM To: Gallego, Francine (DEC) Cc: dstebbins@buffalourbandevelopment.com Subject: RE: 1603929 1669 FILLMORE AVE, BUFFALO Hi Francine: From a meeting I attended this past Monday, I understand that the City of Buffalo Common Council will be dealing with the land sale this month. I am assuming we will be taking title to the property in October or November. PMC Peter M. Cammarata President Buffalo Urban Development Corp. 95 Perry St., Suite 404 Buffalo, NY 14203 716-362-8361 pcammarata@buffalourbandevelopment.com 4/28/20 From: Peter Cammarata Sent: Tuesday, April 28, 2020 7:12 AM To: Gallego, Francine (DEC) Subject: RE: Spill 1603929 1669 Fillmore Good morning .Francine. The property swap with the City has not taken place as of yet. BUDC completed both sides of the survey and title work at our cost to try to expedite things, but the transactions approval by the Common Council has been delayed by the current Covid-19 circumstances. As soon as a closing takes place, we are prepared to update our pending contract with LaBella. Our Board has already approved the transaction and the hiring of a consultant. I hope you are safe and healthy. PMC Peter M. Cammarata President Buffalo Urban Development Corp. 95 Perry St., Suite 404 Buffalo, NY 14203 716-362-8361 pcammarata@buffalourbandevelopment.com 1/20/21 Hi Francine: I hope you are safe and well. BUDC s land swap with the City of Buffalo, which did include 1669 Fillmore is 90% complete after three long years. The deeds were signed on 11/24/20, and the transaction was closed and filed on 12/18/20. I am waiting for final confirmation

COMMERCIAL (Continued) **S118706771**

from the City s Tax and Assessment Department, which should come shortly. As you are aware, I have a price for the tank closure from LaBella from 2017. I have asked Rob Napieralski to update that price for me, so that I can discuss it with our Real Estate Committee at their February meeting. I am hoping that I do not have to rebid the project and can identify a funding source to advance things as soon as possible. PMC Peter M. Cammarata President Buffalo Urban Development Corp. 95 Perry St., Suite 404 Buffalo, NY 14203 716-362-8361 pcammarata@buffalourbandevelopment.com 3/23/21 I believe you are the Spill Engineer for this Site. I wanted to give you a heads up that we will be heading out to the Site to collect waste profile samples in preparation of UST and petroleum impacted soil removal anticipated to begin the week of April 12th. We will be on-Site Friday 3/26 to complete a few direct-push soil borings and collect a waste characterization sample. Let me know if you have any questions. Thanks Andrew Benkleman LaBella Associates - Project Manager 716-768-3184 direct 716-551-6281 office 300 Pearl Street, Suite 130 Buffalo, NY 14202 3/30/21 Peter, Please see the attached PBS Application and Pre-Work Notification for the removal of an approximately 500-gallon abandoned UST at the property addressed as 1669 Fillmore Ave, Buffalo, NY. The removal work is scheduled for the week of April 12th. There is a spill listing (#1603929) associated with the Site for the identification of subsurface impact during a previous Phase II Investigation. Let me know if you have any questions. Thanks Andrew Benkleman LaBella Associates - Project Manager 716-768-3184 direct 716-551-6281 office 300 Pearl Street, Suite 130 Buffalo, NY 14202 labellapc.com 4/13/21 FG site visit. Labella on site. Excavation was open and 5 usts had been uncovered. Product will be vacced out. The usts will be cleaned out and cut open. The petroleum impacted soils will then be excavated and disposed. Work is to continue through next week. 7/15/21 Labella provided the closure report for the site. From: Benkleman, Andrew Sent: Tuesday, July 13, 2021 1:14 PM To: Gallego, Francine (DEC) ; Reuben, Peter A (DEC) Cc: pcammarata@buffalourbandevelopment.com; ahall@buffalourbandevelopment.com; rnapieralski@labellapc.com Subject: 2211220: Petroleum Remediation: 1669 Fillmore Avenue, Buffalo, NY: NYSDEC Spill #16-03929 Francine and Peter, I hope you are both doing well. On behalf of NorDell II, LLC please use the link below to download the Underground Storage Tank (UST) Removals Report for 1669 Fillmore Avenue, Buffalo, NY for your review. As part of the UST removals, five USTs were encountered and removed along with approximately 3,830 gallons of product, water, tank bottoms, and rinsate, and approximately 484 tons of petroleum impacted soil. The analytical results for the confirmatory soil samples collected from the sidewalls and the floor of the excavation were all below NYSDEC CP-51 SCG. Based on the removal and proper disposal of the USTs and impacted soil from the Site and the results of the post-excavation confirmatory soil samples, we respectfully request the closure of Spill #16-03929 associated with the Site. Let me know if you have any comments or questions. Kindly respond to this email that you were able to successfully download the report. Transferred Files NAME TYPE DATE TIME SIZE 2211220_UST Closure Report_1669 Fillmore Ave,Buffalo,NY_7.2.2021.pdf PDF File 7/2/2021 11:53 AM 12,743 KB Thanks Andrew Benkleman LaBella Associates - Project Manager 716-768-3184 direct 716-551-6281 office 300 Pearl Street, Suite 130 Buffalo, NY 14202 labellapc.com During the removal of the unregistered 500 gallon UST (Tank 4), four additional unregistered

COMMERCIAL (Continued) **S118706771**

USTs were discovered, including one 550-gallon (Tank 1), two 1,000-gallon (Tanks 3 and 4) and one 2,000-gallon tank (Tank 5). All disposal receipts were received. The excavation sample results are below CP51 levels. No further work is required. The site is closed.

All Materials:

Site ID:	530414
Operable Unit ID:	1279210
Operable Unit:	01
Material ID:	2284238
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	G
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

D14 **PRATT GEO E FILLING STA** **EDR Hist Auto** **1014539505**
WNW **1669 FILLMORE AVE** **N/A**
< 1/8 **BUFFALO, NY**
0.101 mi.
533 ft. **Site 2 of 5 in cluster D**

Relative: EDR Hist Auto
Lower

Actual: **638 ft.**

Year:	Name:	Type:
1940	PRATT GEO E FILLING STA	GASOLINE AND OIL SERVICE STATIONS
1946	SMITTYS TVDOL SERVICE	GASOLINE AND OIL SERVICE STATIONS
1950	SMITTYS TYDOL SERVICE	GASOLINE STATIONS
1955	CASUCCIO IGNATIUS GAS STA	GASOLINE STATIONS
1960	TYDOL MTR SLS GAS STA	GASOLINE STATIONS
1969	JIMMIES SERVICE	Gasoline Service Stations
1970	JIMMIES SERVICE	Gasoline Service Stations
1971	JIMMIES SERVICE	Gasoline Service Stations
1972	JIMMIES SERVICE	Gasoline Service Stations

D15 **1669 FILLMORE AVE** **NY UST** **U004359132**
WNW **1669 FILLMORE AVE** **N/A**
< 1/8 **BUFFALO, NY 14211**
0.101 mi.
533 ft. **Site 3 of 5 in cluster D**

Relative: UST:
Lower

Actual: **638 ft.**

Name:	1669 FILLMORE AVE
Address:	1669 FILLMORE AVE
City,State,Zip:	BUFFALO, NY 14211
Id/Status:	9-601902 / Unregistered
Program Type:	PBS
Region:	STATE
DEC Region:	9
Expiration Date:	N/A
UTM X:	Not reported
UTM Y:	Not reported

1669 FILLMORE AVE (Continued) **U004359132**

Site Type: Other

Affiliation Records:

Site Id: 622341
Affiliation Type: Facility Owner
Company Name: NORDEL II, LLC
Contact Type: PRESIDENT
Contact Name: PETER M. CAMMARATA
Address1: 95 PERRY STREET SUITE 404
Address2: Not reported
City: BUFFALO
State: NY
Zip Code: 14203
Country Code: 001
Phone: (716) 868-0374
EMail: Not reported
Fax Number: Not reported
Modified By: PAREUBEN
Date Last Modified: 2021-07-15

Site Id: 622341
Affiliation Type: Mail Contact
Company Name: NORDEL II, LLC
Contact Type: Not reported
Contact Name: PETER CAMMARATA
Address1: 95 PERRY STREET SUITE 404
Address2: Not reported
City: BUFFALO
State: NY
Zip Code: 14203
Country Code: 001
Phone: (716) 868-0374
EMail: PCAMMARATA@BUFFALOURBANDEVELOPMENT.COM
Fax Number: Not reported
Modified By: PAREUBEN
Date Last Modified: 2021-07-15

Site Id: 622341
Affiliation Type: Emergency Contact
Company Name: NORDEL II, LLC
Contact Type: Not reported
Contact Name: ART HALL
Address1: Not reported
Address2: Not reported
City: Not reported
State: NN
Zip Code: Not reported
Country Code: 001
Phone: (716) 202-0595
EMail: Not reported
Fax Number: Not reported
Modified By: PAREUBEN
Date Last Modified: 2021-07-15

Tank Info:

Tank Number: 1

1669 FILLMORE AVE (Continued) **U004359132**

Tank ID:	290330
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	550
Install Date:	Not reported
Date Tank Closed:	04/13/2021
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

L00 - Piping Leak Detection - None
D00 - Pipe Type - No Piping
K00 - Spill Prevention - None
A00 - Tank Internal Protection - None
E00 - Piping Secondary Containment - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
J00 - Dispenser - None
F00 - Pipe External Protection - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
G00 - Tank Secondary Containment - None

Tank Number:	2
Tank ID:	290331
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	1000
Install Date:	Not reported
Date Tank Closed:	04/13/2021
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

L00 - Piping Leak Detection - None
D00 - Pipe Type - No Piping
K00 - Spill Prevention - None
A00 - Tank Internal Protection - None
E00 - Piping Secondary Containment - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
J00 - Dispenser - None
F00 - Pipe External Protection - None

1669 FILLMORE AVE (Continued) **U004359132**

B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
G00 - Tank Secondary Containment - None

Tank Number: 3
Tank ID: 290332
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 1000
Install Date: Not reported
Date Tank Closed: 04/13/2021
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

L00 - Piping Leak Detection - None
D00 - Pipe Type - No Piping
A00 - Tank Internal Protection - None
K00 - Spill Prevention - None
H00 - Tank Leak Detection - None
E00 - Piping Secondary Containment - None
I00 - Overfill - None
J00 - Dispenser - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
G00 - Tank Secondary Containment - None

Tank Number: 4
Tank ID: 290333
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 500
Install Date: Not reported
Date Tank Closed: 04/13/2021
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

L00 - Piping Leak Detection - None
D00 - Pipe Type - No Piping
K00 - Spill Prevention - None

1669 FILLMORE AVE (Continued) **U004359132**

A00 - Tank Internal Protection - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
E00 - Piping Secondary Containment - None
J00 - Dispenser - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
G00 - Tank Secondary Containment - None

Tank Number:	5
Tank ID:	290334
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	2000
Install Date:	Not reported
Date Tank Closed:	04/13/2021
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

L00 - Piping Leak Detection - None
D00 - Pipe Type - No Piping
K00 - Spill Prevention - None
A00 - Tank Internal Protection - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
E00 - Piping Secondary Containment - None
J00 - Dispenser - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
G00 - Tank Secondary Containment - None

E16 **MIKES AUTO SERVICE** **EDR Hist Auto** **1014538784**
WSW **1625 FILLMORE AVE** **N/A**
< 1/8 **BUFFALO, NY**
0.111 mi.
585 ft. **Site 1 of 4 in cluster E**

Relative: EDR Hist Auto
Lower

Actual: **636 ft.**

Year:	Name:	Type:
1946	DANITE SERVICE STATION FILLING	GASOLINE AND OIL SERVICE STATIONS
1950	MIKES AUTO SERVICE	GASOLINE STATIONS
1955	MIKES AUTO SERVICE	GASOLINE STATIONS
1960	MIKES AUTO SERVICE GAS STA	GASOLINE STATIONS
1964	MIKES AUTO SERVICE GAS STA	GASOLINE STATIONS
1975	MAJOR BRAND GAS GAS STA	GASOLINE STATIONS
1980	W S R INC SERV STA	GASOLINE STATIONS

MIKES AUTO SERVICE (Continued) **1014538784**

1985	N K AUTO SERV AUTO REPRS	AUTOMOBILE REPAIRING
2003	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2004	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2005	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2006	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2007	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2008	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2009	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2010	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2011	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2012	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2013	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops
2014	BEATUM ALL AUTO SERVICE	General Automotive Repair Shops

E17 **GEIGER ENTERPRIZES** **UST FINDER RELEASE** **1029077985**
WSW **1625 FILLMORE AVENUE** **N/A**
< 1/8 **BUFFALO, NY 0**
0.111 mi.
585 ft. **Site 2 of 4 in cluster E**

Relative: **Lower**
Actual: **636 ft.**

UST FINDER RELEASE:

Object ID:	244081
Facility ID:	NY74175
Lust ID:	NY8001471
Name:	GEIGER ENTERPRIZES
Address:	1625 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1981/01/12 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1174
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.83921
Y Coord:	42.9180200000001
Latitude:	42.9180199999999
Longitude:	-78.8392099999999

E18
WSW
< 1/8
0.111 mi.
585 ft.

GEIGER ENTERPRIZES
1625 FILLMORE AVENUE
BUFFALO, NY

Site 3 of 4 in cluster E

NY LTANKS **S100119726**
N/A

Relative:
Lower

Actual:
636 ft.

LTANKS:

Name:	GEIGER ENTERPRIZES
Address:	1625 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8001471 / 1981-05-01
Facility ID:	8001471
Site ID:	79978
Spill Date:	1981-01-12
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	Not reported
Cleanup Ceased:	1981-05-01
SWIS:	1502
Investigator:	NYSDOT
Referred To:	Not reported
Reported to Dept:	1981-01-15
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	DEC
Last Inspection:	Not reported
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1988-07-28
Spill Record Last Update:	1988-09-12
Spiller Name:	Not reported
Spiller Company:	GEIGER ENTERPRIZES
Spiller Address:	5335 RIVER ROAD
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	74175
DEC Memo:	Not reported
Remarks:	GASOLINE TANK & LINE LEAK AFFECTING SEWERS & GROUNDWATER

All Materials:

Site ID:	79978
Operable Unit ID:	892407
Operable Unit:	01
Material ID:	483699
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	1600.00
Units:	G
Recovered:	.00
Resource Affected:	Sewer
Oxygenate:	Not reported

E19 **JET AUTO SERVICE GARAGE & GAS SLS** **EDR Hist Auto** **1014537773**
West **1649 FILLMORE AVE** **N/A**
< 1/8 **BUFFALO, NY 14111**
0.111 mi.
587 ft. **Site 4 of 4 in cluster E**

Relative: EDR Hist Auto
Lower

Actual: Year: Name: Type:
637 ft. 1980 JET AUTO SERVICE GARAGE & GAS S GASOLINE STATIONS

D20 **1681 FILLMORE** **SEMS** **1018149142**
NW **1681 FILLMORE AVENUE** **NYN000201303**
< 1/8 **BUFFALO, NY 14211**
0.123 mi.
652 ft. **Site 4 of 5 in cluster D**

Relative: SEMS:
Lower
Actual: Site ID: 0201303
639 ft. EPA ID: NYN000201303
Name: 1681 FILLMORE
Address: 1681 FILLMORE AVENUE
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14211
Cong District: 26
FIPS Code: 36029
Latitude: +42.919670
Longitude: -78.838820
FF: N
NPL: Not on the NPL
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)

SEMS Detail:
Region: 02
Site ID: 0201303
EPA ID: NYN000201303
Site Name: 1681 FILLMORE
NPL: N
FF: N
OU: 00
Action Code: RV
Action Name: RMVL
SEQ: 1
Start Date: 2015-08-11 05:00:00
Finish Date: 2015-10-16 05:00:00
Qual: Not reported
Current Action Lead: EPA Perf

D21 **NIAGARA MOHAWK A NATIONAL GRID CO-MANHOLE 1668** **RCRA NonGen / NLR** **1014957364**
WNW **1668 FILLMORE AVE** **NY MANIFEST** **NYP000968677**
1/8-1/4 **BUFFALO, NY 14211**
0.129 mi.
681 ft. **Site 5 of 5 in cluster D**

Relative: **Lower**
Actual: **636 ft.**

RCRA Listings:

Date Form Received by Agency:	20121018
Handler Name:	Niagara Mohawk A National Grid Co-Manhole 1668
Handler Address:	FILLMORE AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYP000968677
Contact Name:	MARGARET M CARD
Contact Address:	ERIE BLVD W
Contact City,State,Zip:	SYRACUSE, NY 13202
Contact Telephone:	315-428-6670
Contact Fax:	315-460-8388
Contact Email:	Not reported
Contact Title:	SR ENVIRON ANALYST
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	ERIE BLVD W
Mailing City,State,Zip:	SYRACUSE, NY 13202
Owner Name:	Not reported
Owner Type:	Not reported
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

NIAGARA MOHAWK A NATIONAL GRID CO-MANHOLE 1668 (Continued) **1014957364**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20170524
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D008
Waste Description:	Lead

Historic Generators:

Receive Date:	20120822
Handler Name:	NIAGARA MOHAWK A NATIONAL GRID CO
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20121018
Handler Name:	NIAGARA MOHAWK A NATIONAL GRID CO-MANHOLE 1668
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Codes:	No NAICS Codes Found

Facility Has Received Notices of Violations:

Violations:	No Violations Found

NIAGARA MOHAWK A NATIONAL GRID CO-MANHOLE 1668 (Continued) **1014957364**

Evaluation Action Summary:
Evaluations: No Evaluations Found

Manifest Facility Information:

EPA ID:	NYP000968677
Country:	USA
Name:	NIAGARA MOHAWK A NATIONAL GRID CO
Address:	1668 FILLMORE AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	1668 FILLMORE AVE MANHOLE 1668
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	NIAGARA MOHAWK A NATIONAL GRID CO
Mailing Contact:	M MORROW
Mailing Address 1:	144 KENSINGTON AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14214
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168317428

Manifest Data:

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	08/29/2012
Trans1 Recv Date:	08/29/2012
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/29/2012
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYP000968677
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055783JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported

NIAGARA MOHAWK A NATIONAL GRID CO-MANHOLE 1668 (Continued) **1014957364**

Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	LEAD
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	165
Units:	Gallons (liquids only)
Number of Containers:	3
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

F22 **PLESH CONTRACT PACKAGING** **PFAS ECHO** **1027406812**
ENE **N/A**
1/8-1/4 **BUFFALO, NY**
0.140 mi.
741 ft. **Site 1 of 6 in cluster F**

Relative: **Higher**

Actual: **647 ft.**

PFAS ECHO:

Name:	PLESH CONTRACT PACKAGING
Address:	Not reported
City,State,Zip:	BUFFALO, NY
Latitude:	42.918929
Longitude:	-78.833085
Count:	1
County:	ERIE
Status:	Active
Region:	02
Industry:	Chemical Mfg
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=110042290650
Facility Percent Minority:	58.542
Facility Derived Tribes:	Tuscarora Nation - 16 mile(s), Tonawanda Band of Seneca - 20 mile(s)
Facility Population:	6920.85
EPA Programs:	RCRA
Federal Facility:	No
Federal Agency:	-
Facility FIPS Code:	36029
Facility Indian Country Flag:	N
Facility Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Facility Derived HUC:	04120103
Facility Derived WBD:	041201040601
Facility Derived CD113:	26
Facility Derived CB2010:	360290034005018
Facility Major Flag:	-
Facility Active Flag:	Y
Facility Inspection Count:	0
Facility Date Last Inspection:	1/25/2017

PLESH CONTRACT PACKAGING (Continued) **1027406812**

Facility Days Last Inspection:	2,432
Facility Informal Count:	0
Facility Date Last Informal Action:	-
Facility Formal Action Count:	0
Facility Date Last Formal Action:	9/11/2009
Facility Total Penalties:	0
Facility Penalty Count:	-
Facility Date Last Penalty:	9/11/2009
Facility Last Penalty AMT:	6,000
Facility QTRS With NC:	0
Facility Programs With SNC:	0
Facility Compliance Status:	No Violation Identified
Facility SNC Flag:	N
AIR Flag:	N
NPDES Flag:	N
SDWIS Flag:	N
RCRA Flag:	Y
TRI Flag:	Y
GHG Flag:	N
AIR IDS:	-
CAA Permit Types:	-
CAA NAICS:	-
CAA SICS:	-
NPDES IDS:	-
CWA Permit Types:	-
CWA NAICS:	-
CWA SICS:	-
RCRA IDS:	NYD002127041
RCRA Permit Types:	LQG
RCRA NAICS:	325612
SDWA IDS:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA SNC Flag:	N
TRI IDS:	14211NNVTV711NO
TRI Releases Transfers:	6
TRI On Site Releases:	6
TRI Off Site Transfers:	0
TRI Reporter:	Y
Facility IMP Water Flag:	-
EJSCREEN Flag US:	Y
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-78.833085,%22y%22:42.918929,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1

Name:	PLESH CONTRACT PACKAGING
Address:	Not reported
City,State,Zip:	BUFFALO, NY
Latitude:	42.918929
Longitude:	-78.833085
Count:	1
County:	ERIE
Status:	Active
Region:	02
Industry:	Cleaning Product Mfg
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=110042290650

PLESH CONTRACT PACKAGING (Continued) **1027406812**

Facility Percent Minority:	58.542
Facility Derived Tribes:	Tuscarora Nation - 16 mile(s), Tonawanda Band of Seneca - 20 mile(s)
Facility Population:	6920.85
EPA Programs:	RCRA
Federal Facility:	No
Federal Agency:	-
Facility FIPS Code:	36029
Facility Indian Country Flag:	N
Facility Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Facility Derived HUC:	04120103
Facility Derived WBD:	041201040601
Facility Derived CD113:	26
Facility Derived CB2010:	360290034005018
Facility Major Flag:	-
Facility Active Flag:	Y
Facility Inspection Count:	0
Facility Date Last Inspection:	1/25/2017
Facility Days Last Inspection:	2,432
Facility Informal Count:	0
Facility Date Last Informal Action:	-
Facility Formal Action Count:	0
Facility Date Last Formal Action:	9/11/2009
Facility Total Penalties:	0
Facility Penalty Count:	-
Facility Date Last Penalty:	9/11/2009
Facility Last Penalty AMT:	6,000
Facility QTRS With NC:	0
Facility Programs With SNC:	0
Facility Compliance Status:	No Violation Identified
Facility SNC Flag:	N
AIR Flag:	N
NPDES Flag:	N
SDWIS Flag:	N
RCRA Flag:	Y
TRI Flag:	Y
GHG Flag:	N
AIR IDS:	-
CAA Permit Types:	-
CAA NAICS:	-
CAA SICS:	-
NPDES IDS:	-
CWA Permit Types:	-
CWA NAICS:	-
CWA SICS:	-
RCRA IDS:	NYD002127041
RCRA Permit Types:	LQG
RCRA NAICS:	325612
SDWA IDS:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA SNC Flag:	N
TRI IDS:	14211NNVTV711NO
TRI Releases Transfers:	6
TRI On Site Releases:	6
TRI Off Site Transfers:	0
TRI Reporter:	Y
Facility IMP Water Flag:	-

PLESH CONTRACT PACKAGING (Continued) **1027406812**

EJSCREEN Flag US: Y
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-78.833085,%22y%22:42.918929,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1

F23 **INNOVATIVE CHEMICAL CORP.** **NY AST** **1000961841**
ENE **711 NORTHLAND AVENUE** **NY CBS AST** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.141 mi.
745 ft. **Site 2 of 6 in cluster F**

Relative: Higher

Actual: 647 ft.

AST:

Name:	INNOVATIVE CHEMICAL CORP.
Address:	711 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
Region:	STATE
DEC Region:	9
Site Status:	Unregulated/Closed
Facility Id:	9-000265
Program Type:	CBS
UTM X:	187115.99230
UTM Y:	4758937.78867
Expiration Date:	N/A
Site Type:	Chemical Manufacturing

Tank Info:

Tank Number:	22
Tank Id:	188221
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Tank Converted to Non-Regulated Use
Pipe Model:	Not reported
Install Date:	03/01/1989
Capacity Gallons:	3000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	01/01/2000
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	37
Tank Id:	188222
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Tank Converted to Non-Regulated Use
Pipe Model:	Not reported
Install Date:	10/01/1988
Capacity Gallons:	3500
Tightness Test Method:	NN
Date Test:	Not reported

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Next Test Date:	Not reported
Date Tank Closed:	03/10/2010
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	38
Tank Id:	188223
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Tank Converted to Non-Regulated Use
Pipe Model:	Not reported
Install Date:	10/01/1988
Capacity Gallons:	3500
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	03/10/2010
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	50
Tank Id:	188224
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Tank Converted to Non-Regulated Use
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	51
Tank Id:	188225
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Tank Converted to Non-Regulated Use
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	52
Tank Id:	188226
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	53
Tank Id:	188227
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	54
Tank Id:	188228
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	55
Tank Id:	188229
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

Tank Number:	56
Tank Id:	188230
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	7000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	05/01/1991
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

CBS AST:

CBS Number:	9-000265
ICS Number:	9-700605
PBS Number:	Not reported
MOSF Number:	Not reported
SPDES Number:	Not reported
Facility Status:	IN SERVICE
Facility Type:	AD
Telephone:	(716) 883-4000
Facility Town:	BUFFALO (C)
Region:	STATE
Expiration Date:	08/15/2003

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Total Capacity of All Active Tanks(gal):	7000
Operator:	JEFF PLESH
Emergency Contact:	JEFF PLESH
Emergency Phone:	(716) 837-7074
Owner Name:	INNOVATIVE CHEMICAL CORP.
Owner Address:	711 NORTHLAND AVENUE
Owner City,St,Zip:	BUFFALO, NY 14211-1093
Owner Telephone:	(716) 881-5500
Owner Type:	Corporate/Commercial
Owner Sub Type:	Not reported
Mail Name:	INNOVATIVE CHEMICAL CORP.
Mail Contact Addr:	711 NORTHLAND AVENUE
Mail Contact Addr2:	BUFFALO DIVISION
Mail Contact Contact:	JEFF PLESH
Mail Contact City,St,Zip:	BUFFALO, NY 14211-1093
Mail Phone:	(716) 883-4000

Tank Id:	38
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	10/88
Tank Closed:	Not reported
Capacity (Gal):	3500
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	None
Tank Error Status:	No Missing Data
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Single Hazardous Substance on DEC List
Internal Protection:	None
External Protection:	None
Pipe Location:	Aboveground
Pipe Type:	Steel/Iron
Pipe Internal:	None
Pipe External:	None
Pipe Flag:	None
Leak Detection:	None
Overfill Protection:	None
Haz Percent:	100
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Pre-Printed Renewal App Last Printed: 04/30/2001

Tank Id:	37
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	10/88
Tank Closed:	Not reported
Capacity (Gal):	3500
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	None
Tank Error Status:	No Missing Data
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Single Hazardous Substance on DEC List
Internal Protection:	None
External Protection:	None
Pipe Location:	Aboveground
Pipe Type:	Steel/Iron
Pipe Internal:	None
Pipe External:	None
Pipe Flag:	None
Leak Detection:	None
Overfill Protection:	None
Haz Percent:	100
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	04/30/2001

Tank Id:	22
CAS Number:	1330207
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	03/89
Tank Closed:	01/00
Capacity (Gal):	3000
Chemical:	Xylene (mixed)
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Tank Secret:	False
Tank Secondary Containment:	None
Tank Error Status:	No Missing Data
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Single Hazardous Substance on DEC List
Internal Protection:	None
External Protection:	None
Pipe Location:	Aboveground
Pipe Type:	Steel/Iron
Pipe Internal:	None
Pipe External:	None
Pipe Flag:	None
Leak Detection:	None
Overfill Protection:	None
Haz Percent:	100
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	04/30/2001

Tank Id:	53
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	00/00
Tank Closed:	05/91
Capacity (Gal):	7000
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	Vault
Tank Error Status:	2
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Not reported
Internal Protection:	Not reported
External Protection:	Not reported
Pipe Location:	Not reported
Pipe Type:	Steel/Iron
Pipe Internal:	Not reported
Pipe External:	Not reported
Pipe Flag:	False
Leak Detection:	Not reported

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Overfill Protection:	Not reported
Haz Percent:	0
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	04/30/2001

Tank Id:	54
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	00/00
Tank Closed:	05/91
Capacity (Gal):	7000
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	Vault
Tank Error Status:	2
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Not reported
Internal Protection:	Not reported
External Protection:	Not reported
Pipe Location:	Not reported
Pipe Type:	Steel/Iron
Pipe Internal:	Not reported
Pipe External:	Not reported
Pipe Flag:	False
Leak Detection:	Not reported
Overfill Protection:	Not reported
Haz Percent:	0
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Renewal Has Been Printed for Facility: True
Pre-Printed Renewal App Last Printed: 04/30/2001

Tank Id: 55
CAS Number: 67561
Federal ID: Not reported
Tank Status: In Service
Install Date: 00/00
Tank Closed: 05/91
Capacity (Gal): 7000
Chemical: Methanol
Tank Location: Indoors, Aboveground
Tank Type: Steel/carbon steel
Total Tanks: 2
Tank Secret: False
Tank Secondary Containment: Vault
Tank Error Status: 2
Date Entered: 08/15/1989
Certified Date: 06/18/2001
Substance: Not reported
Internal Protection: Not reported
External Protection: Not reported
Pipe Location: Not reported
Pipe Type: Steel/Iron
Pipe Internal: Not reported
Pipe External: Not reported
Pipe Flag: False
Leak Detection: Not reported
Overfill Protection: Not reported
Haz Percent: 0
Last Test: Not reported
Due Date: Not reported
SWIS Code: 1402
Lat/Long: Not reported
Is Updated: False
Renew Date: 06/03/93
Is It There: False
Delinquent: False
Date Expired: 08/15/95
Owner Mark: 2
Certificate Needs to be Printed: False
Fiscal Amt for Registration Fee Correct: True
Renewal Has Been Printed for Facility: True
Pre-Printed Renewal App Last Printed: 04/30/2001

Tank Id: 52
CAS Number: 67561
Federal ID: Not reported
Tank Status: In Service
Install Date: 00/00
Tank Closed: 05/91
Capacity (Gal): 7000
Chemical: Methanol
Tank Location: Indoors, Aboveground
Tank Type: Steel/carbon steel

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	Vault
Tank Error Status:	2
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Not reported
Internal Protection:	Not reported
External Protection:	Not reported
Pipe Location:	Not reported
Pipe Type:	Steel/Iron
Pipe Internal:	Not reported
Pipe External:	Not reported
Pipe Flag:	False
Leak Detection:	Not reported
Overfill Protection:	Not reported
Haz Percent:	0
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	04/30/2001

Tank Id:	56
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	00/00
Tank Closed:	05/91
Capacity (Gal):	7000
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	Vault
Tank Error Status:	2
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Not reported
Internal Protection:	Not reported
External Protection:	Not reported
Pipe Location:	Not reported
Pipe Type:	Steel/Iron
Pipe Internal:	Not reported
Pipe External:	Not reported
Pipe Flag:	False

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Leak Detection:	Not reported
Overfill Protection:	Not reported
Haz Percent:	0
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	04/30/2001

Tank Id:	50
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	00/00
Tank Closed:	05/91
Capacity (Gal):	7000
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	Vault
Tank Error Status:	2
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Not reported
Internal Protection:	Not reported
External Protection:	Not reported
Pipe Location:	Not reported
Pipe Type:	Steel/Iron
Pipe Internal:	Not reported
Pipe External:	Not reported
Pipe Flag:	False
Leak Detection:	Not reported
Overfill Protection:	Not reported
Haz Percent:	0
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False

INNOVATIVE CHEMICAL CORP. (Continued) **1000961841**

Fiscal Amt for Registration Fee Correct: True
Renewal Has Been Printed for Facility: True
Pre-Printed Renewal App Last Printed: 04/30/2001

Tank Id:	51
CAS Number:	67561
Federal ID:	Not reported
Tank Status:	In Service
Install Date:	00/00
Tank Closed:	05/91
Capacity (Gal):	7000
Chemical:	Methanol
Tank Location:	Indoors, Aboveground
Tank Type:	Steel/carbon steel
Total Tanks:	2
Tank Secret:	False
Tank Secondary Containment:	Vault
Tank Error Status:	2
Date Entered:	08/15/1989
Certified Date:	06/18/2001
Substance:	Not reported
Internal Protection:	Not reported
External Protection:	Not reported
Pipe Location:	Not reported
Pipe Type:	Steel/Iron
Pipe Internal:	Not reported
Pipe External:	Not reported
Pipe Flag:	False
Leak Detection:	Not reported
Overfill Protection:	Not reported
Haz Percent:	0
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	06/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/15/95
Owner Mark:	2
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	04/30/2001

Click this hyperlink while viewing on your computer to access additional NY_AST_CBS: detail in the EDR Site Report.

F24 **JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACK** **RCRA-LQG** **1000241269**
ENE **711 NORTHLAND AVE** **NY CBS** **NYD002127041**
1/8-1/4 **BUFFALO, NY 14211** **NY AST**
0.141 mi. **NY Spills**
745 ft. **Site 3 of 6 in cluster F** **NY MANIFEST**

Relative:
Higher

Actual:
647 ft.

RCRA Listings:

Date Form Received by Agency:	20230223
Handler Name:	Jjp Contract Packaging Inc Dba Plesh Contract Packaging
Handler Address:	NORTHLAND AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYD002127041
Contact Name:	JEFFREY J PLESH JR.
Contact Address:	NORTHLAND AVE
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	716-883-4000 x309
Contact Fax:	716-892-1171
Contact Email:	JJPLESH@IPLESH.COM
Contact Title:	OPERATIONS MANAGER
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Large Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	2022
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	NORTHLAND AVE
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Plesh Properties Llc
Owner Type:	Private
Operator Name:	Jjp Contract Packaging Inc Dba Plesh Contract Packaging
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230310
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined
Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D022
Waste Description:	Chloroform
Waste Code:	D035
Waste Description:	Methyl Ethyl Ketone
Waste Code:	D040
Waste Description:	Trichlorethylene
Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F005

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: NONE
Waste Description: None

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: GARY ROBINSON INNOVATIVE CHEM
Legal Status: Private
Date Became Current: 19980410
Date Ended Current: Not reported
Owner/Operator Address: 711 NORTHLAND AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: PLESH CONTRACT PACKAGING
Legal Status: Private
Date Became Current: 20100401
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GARY ROBINSON
Legal Status: Private
Date Became Current: 20100401
Date Ended Current: Not reported
Owner/Operator Address: 275 NORTHPOINTE PKWY
Owner/Operator City,State,Zip: AMHERST, NY 14228
Owner/Operator Telephone: 716-929-9000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: PLESH CONTRACT PACKAGING
Legal Status: Private
Date Became Current: 20100401
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: PLESH PROPERTIES LLC
Legal Status: Private
Date Became Current: 20120312
Date Ended Current: Not reported
Owner/Operator Address: 31 HEMLOCK HILL
Owner/Operator City,State,Zip: ORCHARD PARK, NY 14127
Owner/Operator Telephone: 716-883-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: JPLESH@IPLESH.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: INTERNATIONAL CHEMICAL CORP
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: 55 WOODBRIDGE DR
Owner/Operator City,State,Zip: AMHERST, NY 14228
Owner/Operator Telephone: 716-689-4600
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GARY ROBINSON
Legal Status: Private
Date Became Current: 20100401
Date Ended Current: Not reported
Owner/Operator Address: 275 NORTHPOINTE PKWY
Owner/Operator City,State,Zip: AMHERST, NY 14228
Owner/Operator Telephone: 716-929-9000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: GARY ROBINSON/JIM TIMLIN/BRUCE GUARID
Legal Status: Private
Date Became Current: 20040330
Date Ended Current: Not reported
Owner/Operator Address: NORTHLAND AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: INTERNATIONAL CHEMICAL CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 55 WOODBRIDGE DR

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Owner/Operator City,State,Zip: AMHERST, NY 14228
Owner/Operator Telephone: 716-689-4600
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: JEFF PLESH
Legal Status: Private
Date Became Current: 20030110
Date Ended Current: Not reported
Owner/Operator Address: NORTHLAND AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING
Legal Status: Private
Date Became Current: 20100330
Date Ended Current: Not reported
Owner/Operator Address: 711 NORTHLAND AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-883-4000
Owner/Operator Telephone Ext: 309
Owner/Operator Fax: Not reported
Owner/Operator Email: JJPLESH@IPLESH.COM

Owner/Operator Indicator: Operator
Owner/Operator Name: GARY ROBINSON/JIM TIMLIN/BRUCE GUARID
Legal Status: Private
Date Became Current: 20040330
Date Ended Current: Not reported
Owner/Operator Address: NORTHLAND AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: JEFF PLESH / BRUCE GUARD
Legal Status: Private
Date Became Current: 20030311
Date Ended Current: Not reported
Owner/Operator Address: 711 NORTHLAND AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20230223
Handler Name: JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19931029
Handler Name: INNOVATIVE CHEMICAL CORP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: INNOVATIVE CHEMICAL CORP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: INNOVATIVE CHEMICAL CORP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20220317
Handler Name: PLESH CONTRACT PACKAGING
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20020114
Handler Name: INNOVATIVE CHEMICAL CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20100720
Handler Name: PLESH CONTRACT PACKAGING
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: Not reported
Recognized Trader Exporter: Not reported
Spent Lead Acid Battery Importer: Not reported
Spent Lead Acid Battery Exporter: Not reported
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19900301
Handler Name: RICHFIELD CORPORATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040329
Handler Name: INNOVATIVE CHEMICAL CORP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Receive Date: 20080303
Handler Name: INNOVATIVE CHEM. CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 324122
NAICS Description: ASPHALT SHINGLE AND COATING MATERIALS MANUFACTURING

NAICS Code: 32551
NAICS Description: PAINT AND COATING MANUFACTURING

NAICS Code: 325612
NAICS Description: POLISH AND OTHER SANITATION GOOD MANUFACTURING

NAICS Code: 325998
NAICS Description: ALL OTHER MISCELLANEOUS CHEMICAL PRODUCT AND PREPARATION MANUFACTURING

NAICS Code: 42269
NAICS Description: OTHER CHEMICAL AND ALLIED PRODUCTS WHOLESALERS

NAICS Code: 56191
NAICS Description: PACKAGING AND LABELING SERVICES

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: LDR - General
Date Violation was Determined: 20070312
Actual Return to Compliance Date: 20091006
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20070829
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20070521-32
Enforcement Attorney: AMS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-General Facility Standards
Date Violation was Determined:	20070312
Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070829
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AMS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-Contingency Plan and Emergency Procedures
Date Violation was Determined:	20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070829
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AMS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20020819
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYTCT
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 111499
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-General Facility Standards
Date Violation was Determined:	20070312
Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070829
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AMS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20070312
Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20090911
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	20091008
Disposition Status:	AS
Disposition Status Description:	ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	6000
Paid Amount:	6000
Final Count:	1
Final Amount:	6000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	20011031

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20030529
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	20030707
Disposition Status:	AS
Disposition Status Description:	ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	30000
Paid Amount:	30000
Final Count:	1
Final Amount:	30000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901126
Actual Return to Compliance Date: 19910131
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19901227
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYTCT
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 4000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: LDR - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030529
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20030707
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 30000
Paid Amount: 30000
Final Count: 1
Final Amount: 30000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date: 20091006
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20090911
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20070521-32
Enforcement Attorney: AS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20091008
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 6000
Paid Amount: 6000
Final Count: 1
Final Amount: 6000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20020819
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	111499
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20011031
Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20030430
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	30000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030529
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20030707
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 30000
Paid Amount: 30000
Final Count: 1
Final Amount: 30000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20070312
Actual Return to Compliance Date: 20091006
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20070829
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20070521-32
Enforcement Attorney: AMS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYTCT
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 50000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20030430
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	30000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20011031
Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20020819
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	111499
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-General Facility Standards
Date Violation was Determined:	20070312
Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20090911
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	20091008
Disposition Status:	AS
Disposition Status Description:	ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	6000
Paid Amount:	6000
Final Count:	1
Final Amount:	6000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-Contingency Plan and Emergency Procedures
Date Violation was Determined:	20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date: 20091006
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20090911
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20070521-32
Enforcement Attorney: AS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20091008
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 6000
Paid Amount: 6000
Final Count: 1
Final Amount: 6000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030529
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20030707
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 30000
Paid Amount: 30000
Final Count: 1
Final Amount: 30000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: LDR - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030430
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 30000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	20011031
Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20020819
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	111499
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070829
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AMS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-Contingency Plan and Emergency Procedures
Date Violation was Determined:	20070312
Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070829
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AMS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	20011031

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20020819
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	111499
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20011031
Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20030529
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	20030707
Disposition Status:	AS
Disposition Status Description:	ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 30000
Paid Amount: 30000
Final Count: 1
Final Amount: 30000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: LDR - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030430
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 30000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: LDR - General
Date Violation was Determined: 20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20090911
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	20091008
Disposition Status:	AS
Disposition Status Description:	ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	6000
Paid Amount:	6000
Final Count:	1
Final Amount:	6000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20011031
Actual Return to Compliance Date:	20030707
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20030430
Enforcement Responsible Agency:	State
Enforcement Docket Number:	9-20020401-24
Enforcement Attorney:	DS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 30000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20020819
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYTCT
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 111499
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070829
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AMS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	50000
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19901126
Actual Return to Compliance Date:	19910131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19910417
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person:	NYTCT
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	1000
Paid Amount:	1000
Final Count:	1
Final Amount:	1000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-General Facility Standards
Date Violation was Determined:	20070312
Actual Return to Compliance Date:	20091006
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20090911
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20070521-32
Enforcement Attorney:	AS
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	20091008
Disposition Status:	AS
Disposition Status Description:	ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	6000
Paid Amount:	6000
Final Count:	1
Final Amount:	6000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	20070312

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date: 20091006
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20090911
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20070521-32
Enforcement Attorney: AS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20091008
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 6000
Paid Amount: 6000
Final Count: 1
Final Amount: 6000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Contingency Plan and Emergency Procedures
Date Violation was Determined: 20070312
Actual Return to Compliance Date: 20091006
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20090911
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20070521-32
Enforcement Attorney: AS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20091008
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 6000
Paid Amount: 6000
Final Count: 1
Final Amount: 6000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031
Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030529
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20030707
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 30000
Paid Amount: 30000
Final Count: 1
Final Amount: 30000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20011031

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date: 20030707
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20030430
Enforcement Responsible Agency: State
Enforcement Docket Number: 9-20020401-24
Enforcement Attorney: DS
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 30000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20070312
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYTCT
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: 20091006
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20070312
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYTCT
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: 20091006
Scheduled Compliance Date: Not reported
Date of Request: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070807
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20170125
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYBRI
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20020318
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070807

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19880519
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900918
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Actual Return to Compliance Date:	19910131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910115
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRBR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030715
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NO LONGER A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070807
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Former Citation:	Not reported
Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20230317
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FACILITY SELF DISCLOSURE
Evaluation Responsible Person Identifier:	NYKHE
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070312
Evaluation Responsible Agency:	State
Found Violation:	Yes

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20091006
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Evaluation Date:	20090911
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NO LONGER A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070807
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030303
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R2EJG
Evaluation Responsible Sub-Organization:	RCB
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20011031
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070807
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900918
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	19910131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070807
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070807
Evaluation Responsible Agency:	State

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070807
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYBKP
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20091006
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030707
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20030707
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

CBS:

Name:	INNOVATIVE CHEMICAL CORP.
Address:	711 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY 14211
CBS Number:	9-000265
Program Type:	CBS

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Facility Status: Unregulated/Closed
Expiration Date: Not reported
Dec Region: 9
UTMX: 187115.99230
UTMY: 4758937.78867

AST:
Name: JJP CONTRACT PACKAGING
Address: 711 NORTHLAND AVE.
City,State,Zip: BUFFALO, NY 14211
Region: STATE
DEC Region: 9
Site Status: Active
Facility Id: 9-601834
Program Type: PBS
UTM X: Not reported
UTM Y: Not reported
Expiration Date: 10/02/2024
Site Type: Manufacturing (Other than Chemical)/Processing

Affiliation Records:
Site Id: 594803
Affiliation Type: Facility Owner
Company Name: PLESH PROPERTIES LLC
Contact Type: PRESIDENT/OWNER
Contact Name: JEFFREY PLESH SR.
Address1: 31 HEMLOCK HILL
Address2: Not reported
City: ORCHARD PARK
State: NY
Zip Code: 14127
Country Code: 001
Phone: (716) 883-4000
EMail: Not reported
Fax Number: Not reported
Modified By: LDGOMEZ
Date Last Modified: 2019-10-02

Site Id: 594803
Affiliation Type: Mail Contact
Company Name: JJP CONTRACT PACKAGING DBA PLESH CONTRACT PACKAGIN
Contact Type: Not reported
Contact Name: JEFFREY PLESH JR.
Address1: 711 NORTHLAND AVE.
Address2: Not reported
City: BUFFALO
State: NY
Zip Code: 14211
Country Code: 001
Phone: (716) 883-4000
EMail: JJPLESH@IPLESH.COM
Fax Number: Not reported
Modified By: LDGOMEZ
Date Last Modified: 2019-10-02

Site Id: 594803
Affiliation Type: Facility Operator

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Company Name:	JJP CONTRACT PACKAGING
Contact Type:	Not reported
Contact Name:	JJP CONTRACT PACKAGING, INC.
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	Not reported
EMail:	Not reported
Fax Number:	Not reported
Modified By:	LDGOMEZ
Date Last Modified:	2019-10-02

Site Id:	594803
Affiliation Type:	Emergency Contact
Company Name:	PLESH PROPERTIES LLC
Contact Type:	Not reported
Contact Name:	JEFFREY PLESH JR.
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 883-4000
EMail:	Not reported
Fax Number:	Not reported
Modified By:	LDGOMEZ
Date Last Modified:	2019-10-02

Tank Info:

Tank Number:	108
Tank Id:	298966

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
F00 - Pipe External Protection - None
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Temporarily Out of Service
Pipe Model:	Not reported
Install Date:	01/01/2002
Capacity Gallons:	1100

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: white/mineral spirits

Tank Number: 116
Tank Id: 290348

Equipment Records:
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
J02 - Dispenser - Suction Dispenser
E01 - Piping Secondary Containment - Diking (AG only)

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 2000
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 117
Tank Id: 290349

Equipment Records:
E01 - Piping Secondary Containment - Diking (AG only)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
A00 - Tank Internal Protection - None
K01 - Spill Prevention - Catch Basin
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

J02 - Dispenser - Suction Dispenser
Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 2000
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 15
Tank Id: 290340

Equipment Records:

A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F00 - Pipe External Protection - None
J02 - Dispenser - Suction Dispenser
K01 - Spill Prevention - Catch Basin
E01 - Piping Secondary Containment - Diking (AG only)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
Tank Location: Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 3200
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 16
Tank Id: 281703

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)

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K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	03/03/2010
Capacity Gallons:	3200
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha

Tank Number:	19
Tank Id:	290341

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
K01 - Spill Prevention - Catch Basin
F00 - Pipe External Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	07/15/2021
Capacity Gallons:	3200
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha

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Tank Number: 20
Tank Id: 290342

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
F00 - Pipe External Protection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 3200
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 22
Tank Id: 290343

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
K01 - Spill Prevention - Catch Basin
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 3200
Tightness Test Method: -
Date Test: Not reported

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Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: white/mineral spirits

Tank Number: 23
Tank Id: 298961

Equipment Records:
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
J02 - Dispenser - Suction Dispenser
F00 - Pipe External Protection - None
E01 - Piping Secondary Containment - Diking (AG only)

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 02/12/2019
Capacity Gallons: 1300
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 24
Tank Id: 298962

Equipment Records:
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
F00 - Pipe External Protection - None
E01 - Piping Secondary Containment - Diking (AG only)
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
K01 - Spill Prevention - Catch Basin
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated

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above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 02/12/2019
Capacity Gallons: 1300
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: white/mineral spirits

Tank Number: 25
Tank Id: 298963

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
F00 - Pipe External Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser
K01 - Spill Prevention - Catch Basin
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 02/12/2019
Capacity Gallons: 1300
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: white/mineral spirits

Tank Number: 26
Tank Id: 298964

Equipment Records:

J02 - Dispenser - Suction Dispenser
L00 - Piping Leak Detection - None
E01 - Piping Secondary Containment - Diking (AG only)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)

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A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
F00 - Pipe External Protection - None
K01 - Spill Prevention - Catch Basin

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	02/12/2019
Capacity Gallons:	1300
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	white/mineral spirits
Tank Number:	27
Tank Id:	298965

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
K01 - Spill Prevention - Catch Basin
F00 - Pipe External Protection - None
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	02/12/2019
Capacity Gallons:	1300
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	white/mineral spirits
Tank Number:	29

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Tank Id: 281698

Equipment Records:

A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
K01 - Spill Prevention - Catch Basin
J02 - Dispenser - Suction Dispenser
E01 - Piping Secondary Containment - Diking (AG only)
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None

Tank Location: Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 03/03/2010
Capacity Gallons: 3200
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 30
Tank Id: 290345

Equipment Records:

J02 - Dispenser - Suction Dispenser
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
E01 - Piping Secondary Containment - Diking (AG only)
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating

Tank Location: Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 3200
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha
Tank Number:	31
Tank Id:	290346

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
K01 - Spill Prevention - Catch Basin
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	07/15/2021
Capacity Gallons:	3200
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	white/mineral spirits
Tank Number:	33
Tank Id:	281699

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	03/03/2010
Capacity Gallons:	2000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha

Tank Number:	34
Tank Id:	281700

Equipment Records:

J02 - Dispenser - Suction Dispenser
E01 - Piping Secondary Containment - Diking (AG only)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
K01 - Spill Prevention - Catch Basin

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	03/03/2010
Capacity Gallons:	2000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha

Tank Number:	35
Tank Id:	281701

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
J02 - Dispenser - Suction Dispenser
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	03/03/2010
Capacity Gallons:	2000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha
Tank Number:	36
Tank Id:	281702

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
K01 - Spill Prevention - Catch Basin
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	03/03/2010
Capacity Gallons:	2000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha
Tank Number:	37
Tank Id:	290344

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Equipment Records:
E01 - Piping Secondary Containment - Diking (AG only)
F01 - Pipe External Protection - Painted/Asphalt Coating
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
K01 - Spill Prevention - Catch Basin
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 3800
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 38
Tank Id: 290347

Equipment Records:
E01 - Piping Secondary Containment - Diking (AG only)
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
K01 - Spill Prevention - Catch Basin
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 07/15/2021
Capacity Gallons: 3800
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 39
Tank Id: 298967

Equipment Records:

J02 - Dispenser - Suction Dispenser
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
F00 - Pipe External Protection - None
K01 - Spill Prevention - Catch Basin
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
E01 - Piping Secondary Containment - Diking (AG only)

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 01/01/2002
Capacity Gallons: 2180
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: PTDIEZ
Last Modified: 08/09/2023
Material Name: naphtha

Tank Number: 40
Tank Id: 298968

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F00 - Pipe External Protection - None
K01 - Spill Prevention - Catch Basin
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	01/01/2002
Capacity Gallons:	2180
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha
Tank Number:	52
Tank Id:	298957
Equipment Records:	E01 - Piping Secondary Containment - Diking (AG only) L00 - Piping Leak Detection - None G01 - Tank Secondary Containment - Diking (Aboveground) H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G) A00 - Tank Internal Protection - None B01 - Tank External Protection - Painted/Asphalt Coating D01 - Pipe Type - Steel/Carbon Steel/Iron F00 - Pipe External Protection - None K01 - Spill Prevention - Catch Basin I04 - Overfill - Product Level Gauge (A/G) C01 - Pipe Location - Aboveground J02 - Dispenser - Suction Dispenser
Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	12/01/1989
Capacity Gallons:	7000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	petroleum grease
Tank Number:	53
Tank Id:	298958
Equipment Records:	E01 - Piping Secondary Containment - Diking (AG only) A00 - Tank Internal Protection - None B01 - Tank External Protection - Painted/Asphalt Coating D01 - Pipe Type - Steel/Carbon Steel/Iron F00 - Pipe External Protection - None K01 - Spill Prevention - Catch Basin G01 - Tank Secondary Containment - Diking (Aboveground)

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	12/01/1989
Capacity Gallons:	7000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	mineral oil
Tank Number:	69
Tank Id:	298959

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
F00 - Pipe External Protection - None
A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
K01 - Spill Prevention - Catch Basin
B99 - Tank External Protection - Other
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Stainless Steel Alloy
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	12/01/1989
Capacity Gallons:	700
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha
Tank Number:	70
Tank Id:	298960

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
L00 - Piping Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
F00 - Pipe External Protection - None
K01 - Spill Prevention - Catch Basin
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	12/01/1989
Capacity Gallons:	700
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	PTDIEZ
Last Modified:	08/09/2023
Material Name:	naphtha

SPILLS:

Name:	INNOVATIVE CHEMICAL CORP
Address:	711 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0010969 / 2001-01-10
Facility ID:	0010969
Facility Type:	ER
DER Facility ID:	239458
Site ID:	295896
DEC Region:	9
Spill Cause:	Deliberate
Spill Class:	D5
SWIS:	1502
Spill Date:	2000-08-01
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	2001-01-06
CID:	281
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Citizen
Cleanup Ceased:	2001-01-10
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Date Entered In Computer:	2001-01-06
Spill Record Last Update:	2001-01-29
Spiller Name:	MR GOULD
Spiller Company:	INNOVATIVE CHEMICAL CORP
Spiller Address:	711 NORTHLAND AVENUE
Spiller Company:	001
Contact Name:	PAUL WISNIEWSKI
DEC Memo:	CALLER IS FORMER EMPLOYEE OF ABOVE BUSINESS. DURING HIS TENURE WITH COMPANY CALLER STATES HE WITNESSED EMPLOYEES DISPOSING OF ABOVE MATERIAL INTO STORM SEWERS. CALLER ALSO STATES THAT STORAGE OF MATERIAL AT SITE IS VERY POOR. CALLER CAN BE CONTACTED FOR FURTHER INFORMATION.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MF 01/10/01: MF FOR KAB, SPOKE WITH PJB, BECI WILL HANDLE. NO FURTHER ACTION NECESSARY.

All Materials:

Site ID:	295896
Operable Unit ID:	832932
Operable Unit:	01
Material ID:	544832
Material Code:	0014A
Material Name:	mineral/white spirits
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Sewer
Oxygenate:	Not reported

Name:	RICHFIELD CORPORATION
Address:	711 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9003396 / 1990-06-25
Facility ID:	9003396
Facility Type:	ER
DER Facility ID:	239458
Site ID:	295897
DEC Region:	9
Spill Cause:	Deliberate
Spill Class:	Not reported
SWIS:	1502
Spill Date:	1990-06-25
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1990-06-25
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Citizen
Cleanup Ceased:	1990-06-25
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Remediation Phase:	0
Date Entered In Computer:	1990-07-09
Spill Record Last Update:	1990-07-23
Spiller Name:	Not reported
Spiller Company:	RICHFIELD CORPORATION
Spiller Address:	711 NORTHLAND AVENUE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	VARIOUS CHEMICALS STORED IN TANKS & BEING SPILLED INTO FLOOR DRAIN TO SANITARY SEWER, 50 TO 75 55-GAL. DRUMS OF TOXIC WASTE AT SITE ACCORDING TO COMPLAINANT
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 06/25/90: 6/25/90 MNP TELECONS TO BSA & HW, FISHER, BSA TO FOLLOWUP & SEND REPORT TO HW. NO FURTHER NEEDED FROM SPILL UNIT, COMPLETE. 09/29/95: This is additional information about material spilled from the translation of the old spill file: AMMONIA ETC.
Name:	INNOVATIVE CHEMICAL
Address:	711 NORTHLAND AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9112589 / 1992-06-28
Facility ID:	9112589
Facility Type:	ER
DER Facility ID:	239458
Site ID:	295898
DEC Region:	9
Spill Cause:	Deliberate
Spill Class:	C3
SWIS:	1502
Spill Date:	1992-03-10
Investigator:	COOKE
Referred To:	Not reported
Reported to Dept:	1992-03-10
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Private Dwelling
Spill Notifier:	Citizen
Cleanup Ceased:	1992-06-28
Cleanup Meets Std:	True
Last Inspection:	1992-03-23
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1992-03-16
Spill Record Last Update:	1992-11-23
Spiller Name:	Not reported
Spiller Company:	INNOVATIVE CHEMICAL CORP
Spiller Address:	711 NORTHLAND AVENUE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	OIL BEING DUMPED IN SEWER
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was JDC 03/17/92: JDC MET W/ MR PLESHER, PLT MGR AND OUTLINE HIS RESPONSIBILITIES TO COMPLETE PROPER DISPOSAL OF DRUMMED WATER. 05/11/92: JDC TELCON W/ CHUCK PODCZASZY, LAB TECH W/ INOVATED WHO STATED THEY RECIEVED LAB RESULTS AND WOULD COORDINATE DISPOSAL W/ BSA. 06/24/92: RECIEVED DISPOSAL CONFIRMATION, NO FURTHER ACTION

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

REQUIRED.

All Materials:

Site ID:	295898
Operable Unit ID:	962922
Operable Unit:	01
Material ID:	414152
Material Code:	0022
Material Name:	waste oil/used oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	5.00
Units:	G
Recovered:	50.00
Resource Affected:	Sewer
Oxygenate:	Not reported

Name:	INNOVATIVE CHEMICAL CO.
Address:	711 NORTHLAND AVE.
City,State,Zip:	BUFFALO, NY 14211
Spill Number/Closed Date:	0652037 / 2007-03-19
Facility ID:	0652037
Facility Type:	ER
DER Facility ID:	327865
Site ID:	378326
DEC Region:	9
Spill Cause:	Human Error
Spill Class:	D3
SWIS:	1502
Spill Date:	2007-03-12
Investigator:	jfotto
Referred To:	Not reported
Reported to Dept:	2007-03-12
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	DEC
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	2007-03-13
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2007-03-12
Spill Record Last Update:	2007-03-19
Spiller Name:	JEFF PLESH
Spiller Company:	INNOVATIVE CHEMICAL CO.
Spiller Address:	711 NORTHLAND AVE.
Spiller Company:	001
Contact Name:	JEFF J. PLESH
DEC Memo:	Tom at site this morning and observed spill apparently resulting from a fork truck hitting a drum (possibly two) in the plant basement. Drum(s) contained solvent naphtha The area is used to store numerous drummed chemicals. Release outside of basement was not evident; however Tom did not see any actions or attempts to contain or clean-up spilled material.

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) 1000241269

Remarks: 03/13/07 JFO ON SITE MET WITH MR PLESH. HE SHOWED ME THE SPILL AREA IN THE BASEMENT. IT WAS LESS THAN 1 GALLON AND DRIED UP. HE WILL SCRAPE IT UP AND DISPOSE IN REG WASTE STREAM. 03/19/07 JFO RECEIVED FROM MR PLESH A BRIEF REPORT ON THIS SPILL. NO FURTHER ACTION REQUIRED. CLOSED

All Materials:

Site ID:	378326
Operable Unit ID:	1135831
Operable Unit:	01
Material ID:	2125758
Material Code:	0059A
Material Name:	solvents
Case No.:	Not reported
Material FA:	Other
Quantity:	1.00
Units:	G
Recovered:	1.00
Resource Affected:	Impervious Surface
Oxygenate:	False

Manifest Facility Information:

EPA ID:	NYD002127041
Country:	USA
Name:	PLESH CONTRACT PACKAGING
Address:	711 NORTHLAND AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	711 NORTHLAND AVE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	PLESH CONTRACT PACKAGING
Mailing Contact:	JOHN MANSOUR
Mailing Address 1:	711 NORTHLAND AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168834000

Manifest Data:

Document ID:	NYC7138056
Manifest Status:	Not reported
Trans1 State ID:	NY37056AR
Year:	2003
Trans2 State ID:	1204B7NY
Generator Ship Date:	09/16/2003
Trans1 Recv Date:	09/16/2003
Trans2 Recv Date:	09/19/2003

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

TSD Site Recv Date:	09/22/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	TXR000050930
Trans2 EPA ID:	NYD980769947
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00200
Units:	Pounds
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYC7140003
Manifest Status:	Not reported
Trans1 State ID:	NY92865AT
Year:	2003
Trans2 State ID:	1235B7NY
Generator Ship Date:	07/16/2003
Trans1 Recv Date:	07/16/2003
Trans2 Recv Date:	07/18/2003
TSD Site Recv Date:	07/21/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	TXR000050930
Trans2 EPA ID:	NYD980769947
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	02000
Units:	Pounds
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYB2289186
Manifest Status:	Not reported
Trans1 State ID:	NY80344V
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	02/14/1991
Trans1 Recv Date:	02/14/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	02/14/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	NYD982792814
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD043815703
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00110
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Document ID:	NYG3136122
Manifest Status:	Not reported
Trans1 State ID:	AD76272NY
Year:	2002
Trans2 State ID:	Not reported
Generator Ship Date:	05/13/2002
Trans1 Recv Date:	05/13/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/15/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	NYD982792814
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD066060609
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	02475
Units:	Gallons (liquids only)
Number of Containers:	045
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	01265
Units:	Gallons (liquids only)
Number of Containers:	023

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	NYG3136149
Manifest Status:	Not reported
Trans1 State ID:	AD76522NY
Year:	2002
Trans2 State ID:	Not reported
Generator Ship Date:	05/10/2002
Trans1 Recv Date:	05/10/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/13/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	NYD982792814
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD066060609
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	03960
Units:	Gallons (liquids only)
Number of Containers:	072
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 7:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) 1000241269

NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00010
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYG3136284
Manifest Status:	Not reported
Trans1 State ID:	AD76674NY
Year:	2002
Trans2 State ID:	Not reported
Generator Ship Date:	05/10/2002
Trans1 Recv Date:	05/10/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/13/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	NYD982792814
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD066060609
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01595
Units:	Gallons (liquids only)
Number of Containers:	029
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Document ID:	NYG3136293
Manifest Status:	Not reported
Trans1 State ID:	AD76674NY
Year:	2002
Trans2 State ID:	Not reported
Generator Ship Date:	05/14/2002
Trans1 Recv Date:	05/14/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/15/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	NYD982792814
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD066060609
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00110
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	02475
Units:	Gallons (liquids only)
Number of Containers:	024
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD980769947
Year:	2018
Trans2 State ID:	OHD077772895

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Generator Ship Date:	06/06/2008
Trans1 Recv Date:	06/06/2008
Trans2 Recv Date:	06/09/2008
TSD Site Recv Date:	06/13/2008
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD001926740
TSDF ID 2:	Not reported
Manifest Tracking Number:	000140640JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	250
Units:	Gallons (liquids only)
Number of Containers:	5
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD982792814
Year:	2018
Trans2 State ID:	OHD077772895
Generator Ship Date:	07/26/2007
Trans1 Recv Date:	07/26/2007
Trans2 Recv Date:	07/30/2007
TSD Site Recv Date:	08/03/2007
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD001926740

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

TSDF ID 2:	Not reported
Manifest Tracking Number:	000140634JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	550
Units:	Gallons (liquids only)
Number of Containers:	10
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	OHD077772895
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	06/14/2007
Trans1 Recv Date:	06/14/2007
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	06/18/2007
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD001926740
TSDF ID 2:	Not reported
Manifest Tracking Number:	000140527JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	275
Units:	Gallons (liquids only)
Number of Containers:	5
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000050930
Year:	2018
Trans2 State ID:	NYD980769947
Generator Ship Date:	04/03/2006
Trans1 Recv Date:	04/03/2006
Trans2 Recv Date:	04/07/2006
TSD Site Recv Date:	04/08/2006
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002127041
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	NYC7738244
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code a:	METHANOL (I) (OR) METHYL ALCOHOL (I)
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	1600
Units:	Pounds
Number of Containers:	4
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

Click this hyperlink while viewing on your computer to access
82 additional NY MANIFEST: record(s) in the EDR Site Report.

EPA ID:	NYP000776427
Country:	USA
Name:	BEMIS COMPANY THE
Address:	711 NORTHLAND AVENUE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14240
Zip 4:	Not reported
Location Address 1:	711 NORTHLAND AVENUE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14240
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	BEMIS COMPANY THE
Mailing Contact:	HOWARD MCKEE
Mailing Address 1:	711 NORTHLAND AVENUE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14240
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168933500

Manifest Data:

Document ID:	NYO1850067
Manifest Status:	C - Completed copy
Trans1 State ID:	NY9A090
Year:	1983
Trans2 State ID:	Not reported
Generator Ship Date:	830519
Trans1 Recv Date:	830519
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	830519
Part A Recv Date:	030525
Part B Recv Date:	030525
Generator EPA ID:	NYP000776427
Trans1 EPA ID:	NYD080336241
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B011
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01000
Units:	Pounds
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	100

Document ID:	NYO1850076
Manifest Status:	K - Completed after the designated time
Trans1 State ID:	NY9A080
Year:	1983
Trans2 State ID:	Not reported
Generator Ship Date:	830518
Trans1 Recv Date:	830518
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	830708
Part A Recv Date:	030718
Part B Recv Date:	030718
Generator EPA ID:	NYP000776427
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	TXD055141378
TSDF ID 1:	TXD055141378
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B003
Waste Code 2:	Not reported
Waste Code 3:	Not reported

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Waste Code 4:		Not reported
Waste Code 5:		Not reported
Waste Code 6:		Not reported
Quantity:		00420
Units:		Pounds
Number of Containers:		001
Container Type:		Cargo tanks (tank trucks)
Handling Method:		Burn
Specific Gravity:		100
Document ID:		NYO1850085
Manifest Status:		K - Completed after the designated time
Trans1 State ID:		NY9A090
Year:		1983
Trans2 State ID:		Not reported
Generator Ship Date:		830518
Trans1 Recv Date:		830518
Trans2 Recv Date:		Not reported
TSD Site Recv Date:		830518
Part A Recv Date:		030707
Part B Recv Date:		030707
Generator EPA ID:		NYP000776427
Trans1 EPA ID:		NYD080336241
Trans2 EPA ID:		Not reported
TSDF ID 1:		NYD080336241
TSDF ID 2:		Not reported
Manifest Tracking Number:		Not reported
Import Indicator:		Not reported
Export Indicator:		Not reported
Discr Quantity Indicator:		Not reported
Discr Type Indicator:		Not reported
Discr Residue Indicator:		Not reported
Discr Partial Reject Indicator:		Not reported
Discr Full Reject Indicator:		Not reported
Manifest Ref Number:		Not reported
Alt Facility RCRA ID:		Not reported
Alt Facility Sign Date:		Not reported
MGMT Method Type Code:		Not reported
Waste Code 1:	B011	
Waste Code 2:		Not reported
Waste Code 3:		Not reported
Waste Code 4:		Not reported
Waste Code 5:		Not reported
Waste Code 6:		Not reported
Quantity:		01000
Units:		Pounds
Number of Containers:		001
Container Type:		Dump truck
Handling Method:		Landfill
Specific Gravity:		100
Waste Code 7:		B006
Waste Code 8:		Not reported
Waste Code:		Not reported
Waste Code 10:		Not reported
Waste Code 11:		Not reported
Quantity:		00150
Units:		Pounds

JJP CONTRACT PACKAGING INC DBA PLESH CONTRACT PACKAGING (Continued) **1000241269**

Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Not reported
Specific Gravity:	100

F25 **WELL WORTH** **RCRA-VSQG** **1014395137**
ENE **180 DUTTON AVE** **NYN008022972**
1/8-1/4 **BUFFALO, NY 14211**
0.161 mi.
848 ft. **Site 4 of 6 in cluster F**

Relative: **Higher**

Actual: **650 ft.**

RCRA Listings:

Date Form Received by Agency:	20100927
Handler Name:	Well Worth
Handler Address:	DUTTON AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYN008022972
Contact Name:	CINDY OEHLER
Contact Address:	DUTTON AVE
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	716-597-0214
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	DUTTON AVE
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Not reported
Owner Type:	Not reported
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline

WELL WORTH (Continued) **1014395137**

2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Historic Generators:

Receive Date:	20100927
Handler Name: WELL WORTH	
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Codes:	No NAICS Codes Found

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

WELL WORTH (Continued) **1014395137**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WELL WORTH (Continued) **1014395137**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20100921
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R2RV
Evaluation Responsible Sub-Organization:	RCB
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180212
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYBRI
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

F26 **WELL WORTH PRODUCTS** **RCRA NonGen / NLR** **1026726709**
ENE **180 DUTTON AVE** **NYR000248617**
1/8-1/4 **BUFFALO, NY 14211**
0.161 mi.
848 ft. **Site 5 of 6 in cluster F**

Relative:
Higher

Actual:
650 ft.

RCRA Listings:

Date Form Received by Agency:	20211221
Handler Name:	Well Worth Products
Handler Address:	DUTTON AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYR000248617
Contact Name:	PETER SNAJCZUK
Contact Address:	DUTTON AVE
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	716-597-0214
Contact Fax:	Not reported
Contact Email:	PSNAJCZUK@WELLWORTHPRODUCTS.COM
Contact Title:	PRESIDENT
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported

WELL WORTH PRODUCTS (Continued) **1026726709**

Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	DUTTON AVE
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Peter Snajczuk
Owner Type:	Private
Operator Name:	Peter Snajczuk
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211221
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002

WELL WORTH PRODUCTS (Continued) **1026726709**

Waste Description: Corrosive Waste

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: PETER SNAJCZUK	
Legal Status:	Private
Date Became Current:	20150918
Date Ended Current:	Not reported
Owner/Operator Address:	180 DUTTON AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211
Owner/Operator Telephone:	716-435-7958
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	PSNAJCZUK@WELLWORTHPRODUCTS.COM

Owner/Operator Indicator:	Operator
Owner/Operator Name: PETER SNAJCZUK	
Legal Status:	Private
Date Became Current:	20150918
Date Ended Current:	Not reported
Owner/Operator Address:	180 DUTTON AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211
Owner/Operator Telephone:	716-435-7958
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	PSNAJCZUK@WELLWORTHPRODUCTS.COM

Owner/Operator Indicator:	Owner
Owner/Operator Name: PETER SNAJCZUK	
Legal Status:	Private
Date Became Current:	20150918
Date Ended Current:	Not reported
Owner/Operator Address:	180 DUTTON AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211
Owner/Operator Telephone:	716-435-7958
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	PSNAJCZUK@WELLWORTHPRODUCTS.COM

Owner/Operator Indicator:	Operator
Owner/Operator Name: PETER SNAJCZUK	
Legal Status:	Private
Date Became Current:	20150918
Date Ended Current:	Not reported
Owner/Operator Address:	180 DUTTON AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211
Owner/Operator Telephone:	716-435-7958
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	PSNAJCZUK@WELLWORTHPRODUCTS.COM

Historic Generators:

Receive Date:	20211221
Handler Name: WELL WORTH PRODUCTS	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny

WELL WORTH PRODUCTS (Continued) **1026726709**

Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20210111
Handler Name: WELL WORTH PRODUCTS
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 423120
NAICS Description: MOTOR VEHICLE SUPPLIES AND NEW PARTS MERCHANT WHOLESALERS

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported

WELL WORTH PRODUCTS (Continued) **1026726709**

SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20220624
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

F27 **WELL-WORTH PRODUCTS INC** **NY AIRS S121492747**
ENE **180 DUTTON AVE** **NY MANIFEST N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.161 mi.
848 ft. **Site 6 of 6 in cluster F**

Relative: **Higher**

Actual: **650 ft.**

AIRS:

Name:	WELL-WORTH PRODUCTS INC
Address:	180 DUTTON AVE
City,State,Zip:	BUFFALO, NY 14211
DECID:	9140200848
Process ID:	Not reported
Latitude:	Not reported
Longitude:	Not reported
FIPS Code:	Not reported
Auth Type Code:	AFR
Permit Status:	Issued
Auth Status Code:	2
Emissions:	Not reported
Issue date:	08/15/2016
Expired Date:	08/14/2026
Emission Unit date:	Not reported
Contamination:	Not reported
EPA Control Code:	Not reported
Control Eff:	Not reported
Unit:	Not reported
Permit Status:	Expired
Auth Status Code:	7
Emissions:	Not reported
Issue date:	11/23/1998
Expired Date:	12/31/2000

WELL-WORTH PRODUCTS INC (Continued) **S121492747**

Emission Unit date:	Not reported
Contamination:	Not reported
EPA Control Code:	Not reported
Control Eff:	Not reported
Unit:	Not reported

Manifest Facility Information:

EPA ID:	NYR000248617
Country:	USA
Name:	WELL WORTH PRODUCTS
Address:	180 DUTTON AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	180 DUTTON AVE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	WELL WORTH PRODUCTS
Mailing Contact:	WELL WORTH PRODUCTS
Mailing Address 1:	180 DUTTON AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7165970214

G28 **FRONTIER PLATING** **RCRA NonGen / NLR** **1004759161**
NW **68 BUELL AVE** **FINDS** **NYN008009060**
1/8-1/4 **BUFFALO, NY 14211** **ECHO**
0.178 mi.
938 ft. **Site 1 of 3 in cluster G**

Relative:
Higher

Actual:
641 ft.

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Frontier Plating Co
Handler Address:	BUELL AVE
Handler City,State,Zip:	BUFFALO, NY 14225
EPA ID:	NYN008009060
Contact Name:	ARNOLD COLLIER
Contact Address:	BUELL AVE
Contact City,State,Zip:	BUFFALO, NY 14225
Contact Telephone:	716-896-2811
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported

FRONTIER PLATING (Continued) **1004759161**

Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	BUELL AVE
Mailing City,State,Zip:	BUFFALO, NY 14225
Owner Name:	Frontier Plating Co
Owner Type:	Private
Operator Name:	Frontier Plating Co
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: FRONTIER PLATING CO	
Legal Status:	Private
Date Became Current:	20010101
Date Ended Current:	Not reported

FRONTIER PLATING (Continued) **1004759161**

Owner/Operator Address: 68 BUELL AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14225
Owner/Operator Telephone: 716-896-2811
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: FRONTIER PLATING CO
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: 68 BUELL AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14225
Owner/Operator Telephone: 716-896-2811
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: FRONTIER PLATING CO
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 68 BUELL AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14225
Owner/Operator Telephone: 716-896-2811
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20060101
Handler Name: FRONTIER PLATING CO
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: FRONTIER PLATING CO
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

FRONTIER PLATING (Continued) **1004759161**

Receive Date:	20010119
Handler Name: FRONTIER PLATING CO	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Codes:	No NAICS Codes Found

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number: Not reported	
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type: Not reported	
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number: Not reported	
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

FRONTIER PLATING (Continued) **1004759161**

Evaluation Action Summary:

Evaluation Date:	20001205
Evaluation Responsible Agency:	EPA Contractor/Grantee
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R2MD
Evaluation Responsible Sub-Organization:	RCB
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:

Registry ID: 110004510887

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.
The Department of Labor, Occupational Safety and Health Administration information system consists of inspection case detail for approximately 100,000 OSHA inspections conducted annually. The FRS dataset includes facilities that had inspections within the last 7 years within the mining, oil and gas, utilities, and manufacturing sectors.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1004759161
Registry ID:	110004510887
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110004510887
Name:	FRONTIER PLATING
Address:	68 BUELL AVE
City,State,Zip:	BUFFALO, NY 14211

G29 **FRONTIER PLATING** **PA MANIFEST** **S110049516**
NW **68 BUELL AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.178 mi.
938 ft. **Site 2 of 3 in cluster G**

Relative: Higher
Actual: 641 ft.

Manifest Details:

Year:	2016
Manifest Number:	001215677FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	10/24/2016
Mailing Address:	Not reported

FRONTIER PLATING (Continued) **S110049516**

Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811
TSD EPA Id:	Not reported
TSD Date:	Not reported
TSD Facility Name:	Cycle Chem Inc
TSD Facility Address:	550 Industrial Rd
TSD Facility City:	Lewisberry
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	5
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	3000
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	PAD067098822
Date TSP Sig:	Not reported

Year:	2016
Manifest Number:	001215677FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	10/24/2016
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811
TSD EPA Id:	Not reported
TSD Date:	Not reported
TSD Facility Name:	Cycle Chem Inc
TSD Facility Address:	550 Industrial Rd
TSD Facility City:	Lewisberry
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D002
Container Number:	5
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	3000
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	PAD067098822
Date TSP Sig:	Not reported

Year:	2012
Manifest Number:	001215722FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	09/10/2012
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811

FRONTIER PLATING (Continued) **S110049516**

TSD EPA Id:	Not reported
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DR
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	2
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	1000
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	PAD067098822
Date TSP Sig:	Not reported
Year:	2010
Manifest Number:	001215825FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	08/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	1
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	500
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported
Year:	2009
Manifest Number:	001215828FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	07/15/2009
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC

FRONTIER PLATING (Continued) **S110049516**

TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D002
Container Number:	3
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	1500
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2009
Manifest Number:	001215828FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	07/15/2009
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	3
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	1500
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2008
Manifest Number:	001215886FLE
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000096024
Generator Date:	07/08/2008
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	716-896-2811
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA

FRONTIER PLATING (Continued) **S110049516**

Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	14
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	7000
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

G30 **FRONTIER PLATING** **RCRA NonGen / NLR** **1004762348**
NW **68 BUELL AVE** **NY MANIFEST** **NYR000096024**
1/8-1/4 **BUFFALO, NY 14211**
0.178 mi.
938 ft. **Site 3 of 3 in cluster G**

Relative: **Higher**

Actual: **641 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Frontier Plating
Handler Address:	BUELL AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYR000096024
Contact Name:	ARNOLD CORRIER
Contact Address:	BUELL AVE
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	716-896-2811
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	BUELL AVE
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Arnold Corrier
Owner Type:	Private
Operator Name:	Arnold Corrier
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No

FRONTIER PLATING (Continued) **1004762348**

Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D007
Waste Description:	Chromium

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ARNOLD CORRIER	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	68 BUELL AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211
Owner/Operator Telephone:	716-896-2811
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: ARNOLD CORRIER	
Legal Status:	Private
Date Became Current:	20010101
Date Ended Current:	Not reported
Owner/Operator Address:	68 BUELL AVE

FRONTIER PLATING (Continued) **1004762348**

Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-896-2811
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: ARNOLD CORRIER
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: 68 BUELL AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-896-2811
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20060101
Handler Name: FRONTIER PLATING
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: FRONTIER PLATING
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010416
Handler Name: FRONTIER PLATING
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

FRONTIER PLATING (Continued) **1004762348**

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

FRONTIER PLATING (Continued) **1004762348**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

FRONTIER PLATING (Continued) **1004762348**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

FRONTIER PLATING (Continued) **1004762348**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20090806
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20110914
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTRN
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20230808
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9

FRONTIER PLATING (Continued) **1004762348**

Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120827
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20020708
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Manifest Facility Information:

EPA ID:	NYR000096024
Country:	USA
Name:	FRONTIER PLATING
Address:	68 BUELL AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	68 BUELL ST
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	FRONTIER PLATING
Mailing Contact:	FRONTIER PLATING
Mailing Address 1:	68 BUELL AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported

FRONTIER PLATING (Continued) **1004762348**

Mailing Country:	USA
Mailing Phone:	Not reported

Manifest Data:

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYR000115733
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	08/27/2010
Trans1 Recv Date:	08/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/10/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000096024
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001215825FLE
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	500
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYR000115733
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	10/24/2016

FRONTIER PLATING (Continued) **1004762348**

Trans1 Recv Date:	10/24/2016
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/03/2016
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000096024
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001215677FLE
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	CORROSIVE WASTE
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	3000
Units:	Pounds
Number of Containers:	5
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYR000115733
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	09/10/2012
Trans1 Recv Date:	09/10/2012
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/17/2012
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000096024
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported

FRONTIER PLATING (Continued) **1004762348**

Manifest Tracking Number:	001215722FLE
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	1000
Units:	Pounds
Number of Containers:	2
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYR000115733
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	07/15/2009
Trans1 Recv Date:	07/15/2009
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/03/2009
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000096024
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001215828FLE
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported

FRONTIER PLATING (Continued) **1004762348**

Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	CORROSIVE WASTE
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	1500
Units:	Pounds
Number of Containers:	3
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	1

31
SW
1/8-1/4
0.182 mi.
961 ft.

BUFLOVAK CO SITE **FUSRAP** **1016603391**
1543 FILLMORE AVE. **N/A**
BUFFALO, NY

Relative:
Lower

Actual:
635 ft.

FUSRAP:

Site Name:	BUFLOVAK CO SITE
Site Id:	NY 56
Site Status:	Eliminated from further consideration under FUSRAP
Designated Name:	Not Designated
Alternate Name:	Buflovak Co - NY 56; Buflovak LLC; Blaw-Knox Company
Location Street Address:	1543 FILLMORE AVE.
Location City:	BUFFALO
Location State:	NY
Location County:	Not reported
Site Oprerations:	Research and testing with uranium raffinate.
Site Disposition:	Eliminated - Possibility for contamination considered remote due to scope of tests conducted and indication of cleanup operations after tests
Radioactice Materials Handled:	Yes
Primary Radioactivce Materials Handled:	Uranium Raffinate
Radiological Survey(S):	None Indicated
LM Site:	Not reported
Considered Name:	Buflovak Co
Site Summary:	Not reported
Website URL:	https://lmpublicsearch.lm.doe.gov/SitePages/ConsideredSites.aspx?sitename=Buflovak%20Co

H32 **WORLD SERIES OF SPORTS NY INC.** **UST FINDER** **1028595892**
North **537 E DELAVAN AVE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.187 mi.
989 ft. **Site 1 of 8 in cluster H**

Relative:
Higher

Actual:
652 ft.

UST FINDER:

Object ID:	315967
Facility ID:	NY52432
Name:	WORLD SERIES OF SPORTS NY INC.
Address:	537 E DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14211
Address Match Type:	Not reported
Open USTs:	0
Closed USTs:	2
TOS USTs:	0
Population 1500ft:	673
Private Wells 1500ft:	0
Within 100yr Floodplain:	No
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Facility Status:	Closed UST(s)
Date of Last Inspection:	Not reported
EPA Region:	2
Tribe:	Not reported
Coordinate Source:	State
X Coord:	-78.836829
Y Coord:	42.9201330000001
Latitude:	42.920133
Longitude:	-78.836829

UST FINDER:

Object ID:	1304709
Facility ID:	NY52432
Tank ID:	NY89110
Tank Status:	Closed
Installation Date:	Not reported
Removal Date:	Not reported
Tank Capacity:	15000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1304710
Facility ID:	NY52432
Tank ID:	NY91832
Tank Status:	Closed
Installation Date:	Not reported
Removal Date:	Not reported
Tank Capacity:	15000
Substances:	Not reported
Tank Wall Type:	Not reported

H33 **VIBRATECH** **SEMS** **1009805594**
North **537 EAST DELVAM AVENUE** **PRP** **NYN000206025**
1/8-1/4 **BUFFALO, NY 14211**
0.187 mi.
989 ft. **Site 2 of 8 in cluster H**

Relative:
Higher

Actual:
652 ft.

SEMS:

Site ID:	0206025
EPA ID:	NYN000206025
Name:	VIBRATECH
Address:	537 EAST DELVAM AVENUE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Cong District:	Not reported
FIPS Code:	36029
Latitude:	42.886717
Longitude:	-78.878392
FF:	N
NPL:	Not on the NPL
Non NPL Status:	Removal Only Site (No Site Assessment Work Needed)

SEMS Detail:

Region:	02
Site ID:	0206025
EPA ID:	NYN000206025
Site Name:	VIBRATECH
NPL:	N
FF:	N
OU:	00
Action Code:	RV
Action Name:	RMVL
SEQ:	1
Start Date:	2008-05-14 04:00:00
Finish Date:	2008-08-05 05:00:00
Qual:	S
Current Action Lead:	EPA Perf

Region:	02
Site ID:	0206025
EPA ID:	NYN000206025
Site Name:	VIBRATECH
NPL:	N
FF:	N
OU:	00
Action Code:	RV
Action Name:	RMVL
SEQ:	2
Start Date:	2008-10-03 04:00:00
Finish Date:	2009-09-09 04:00:00
Qual:	C
Current Action Lead:	EPA Perf

Region:	02
Site ID:	0206025
EPA ID:	NYN000206025
Site Name:	VIBRATECH
NPL:	N
FF:	N
OU:	00
Action Code:	AR

VIBRATECH (Continued) **1009805594**

Action Name:	ADMIN REC
SEQ:	1
Start Date:	2008-07-31 05:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	EPA Perf

PRP:

PRP Name:	A&P HOLDING ONTARIO, INC PUGLIESE, MARIO CARMINE

H34 **VIBRATECH INC.** **NY SHWS S102176404**
North **537 EAST DELAVAN** **NY Spills N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.187 mi.
989 ft. **Site 3 of 8 in cluster H**

Relative:
Higher

Actual:
652 ft.

SHWS:

Name:	VIBRATECH INC.
Address:	537 EAST DELAVAN
City,State,Zip:	BUFFALO, NY 14211
Program:	HW
Site Code:	58140
Classification:	Significant threat to the public health or environment - action required.
Region:	9
Acres:	10.522
HW Code:	915165
Record Add:	11/18/1999
Record Upd:	12/14/2022
Updated By:	SFRADON

Site Description: Location: The Vibratech site is an approximately 10.522-acre site located in a mixed industrial/commercial/residential area at 537 East Delavan Avenue in the City of Buffalo, Erie County. Site Features: The main site features include one- and two-story brick and steel-frame buildings at the northern and southwestern ends of the site. In 2017, a significant portion of the site structures were demolished and removed by the current site owner (Buffalo Urban Development Corporation). Most of the Site area is now exposed concrete floor slabs, asphalt parking areas and access roads, and small grassy areas at the northern end of the site. Significant historic operational features at the site include the former degreaser storage room with three former 10,000-gallon underground storage tanks (USTs), four former 12,000-gallon fuel oil above-ground storage tanks (ASTs), and the deep sump. The deep sump is an approximate 9-inch diameter, formerly 202.5 feet deep, open-hole bedrock well initially used as a source of cooling water, but possibly later used for disposal. Current Zoning and Land Use: The site is currently zoned for light industrial use. The buildings in the northern portion of the site are currently being renovated for reuse. The buildings in the southwestern portion of the site are being leased for storage/commercial use. The site is surrounded by residential, commercial and industrial properties. Past Use of the Site: The site was utilized by Houdaille Industries for the manufacture of vibration dampeners and rotary shock absorbers for the truck and railroad industry from 1927 through the mid-1990s. Specific

VIBRATECH INC. (Continued) **S102176404**

operations at the plant included chip turning, assembly of components, heat treating and plating. Subsequent owners and occupants of the site include: British Arms, Buffalo Arms, Interstate Tires, Buffalo Powder Coatings, World Series of Sports Promotions, and Buffalo Salvage. Site Geology and Hydrology: The site is covered by buildings and asphalt underlain by sandy gravel fill containing ash and cinders to a depth of 1 to 7 feet below ground surface (fbgs). Natural soils identified below the fill consist of fine textured lake deposited sediment with a clayey-silt texture and/or glacial deposits extending to the top of bedrock located 2 to 12 fbgs. Bedrock is fractured and is typical of the Onondaga Limestone Formation. Depth to groundwater is generally 4 to 12 fbgs with flow to the south-southwest, influenced by near surface utilities and the Scajaquada Drain to the south.

Env Problem: Nature and Extent of Contamination: Based on investigations completed to date, the primary contaminants of concern are: chlorinated solvents (trichloroethene [TCE] and 1,1,1-trichloroethane and their daughter products) and 1,4-dioxane in the southern two-thirds of the site; and free-phase petroleum products (oil) in the southwestern corner of the site. Solvent contaminated soil containing TCE was remediated along a former rail spur on the southern portion of the site in the mid-1990s. Groundwater concentrations of TCE initially decreased following this soil remediation action. However, chlorinated solvents concentrations subsequently rebounded and 1,4-dioxane and free-phase product were identified onsite. A removal action was undertaken by USEPA to remove asbestos and PCBs from light ballasts, capacitors and associated contamination throughout the facility. Additionally, mercury containing switches and lamps were removed and disposed. The removal action was complete on September 9, 2009. A supplemental investigation completed in 2010 identified additional TCE contamination in groundwater north of the previously impacted groundwater plume. Additional investigations are being performed to determine the nature and extent of this contamination. Subsurface petroleum products have been identified in multiple onsite monitoring wells in the southwestern portion of the site. A specific source of the petroleum has not been determined, however, it is likely the result of numerous spills and leakage over the life of the facility. Significant dissolved phase petroleum contamination has not been identified in the groundwater. An off-site soil vapor intrusion investigation (indoor air and subslab), completed in the spring of 2012, found no significant off-site impacts due to existing groundwater contamination. A re-evaluation is necessary if reuse of onsite buildings or new construction occurs. A soil gas survey completed in the fall of 2015 helped to identify potential source areas under the central eastern (former degreaser storage room) and southwest corner (deep sump) of the former main plant building requiring additional investigation/remediation.

Health Problem: Direct contact with contaminants in the soil is unlikely because the majority of the site is covered with buildings and pavement. No off-site soil impacts have been identified to-date. People are not expected to come into direct contact with contaminated groundwater unless they dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not contaminated by the site. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the

VIBRATECH INC. (Continued) **S102176404**

	movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for the inhalation of site contaminants due to soil vapor intrusion in the on-site building. Sampling indicates soil vapor intrusion is not a concern for off-site buildings.
Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	1927
Disp Term:	1992
Lat/Long:	42:55:13:0 / 78:50:15:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	2016-04-07 11:38:00
Updated By:	mfmoore
Own Op:	1
Sub Type:	08
Owner Name:	Rebecca Gandour
Owner Company:	NORDEL I LLC c/o Buffalo Urban Development Corp. (BUDC)
Owner Address:	95 Perry Street, Suite 404
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
HW Code:	915165
Waste Type:	1,1,1-TRICHLOROETHANE
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	915165
Waste Type:	petroleum products
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	915165
Waste Type:	trichloroethene (TCE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYD083530428
Cross Ref Type Code:	05
Cross Ref Type:	EPA Site ID
Record Added Date:	1999-11-18 12:00:00
Record Updated:	2010-01-22 17:20:00
Updated By:	EMZUK
Crossref ID:	8805725
Cross Ref Type Code:	01
Cross Ref Type:	Spill No.
Record Added Date:	2021-09-27 10:48:00
Record Updated:	2021-09-27 10:48:00
Updated By:	SMMOELLE
Crossref ID:	9710497
Cross Ref Type Code:	01
Cross Ref Type:	Spill No.
Record Added Date:	2007-04-05 09:50:00
Record Updated:	2007-04-05 09:50:00
Updated By:	mobarrie
Crossref ID:	NYD08350428
Cross Ref Type Code:	05

VIBRATECH INC. (Continued) **S102176404**

Cross Ref Type: EPA Site ID
Record Added Date: 1999-11-18 12:00:00
Record Updated: 2001-05-10 16:31:00
Updated By: REGTRANS

SPILLS:

Name:	FORMER VIBRATECH
Address:	537 EAST DELAVAN
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9710497 / 2016-06-09
Facility ID:	9710497
Facility Type:	ER
DER Facility ID:	143339
Site ID:	170344
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	B3
SWIS:	1502
Spill Date:	1997-12-01
Investigator:	CRSTANIS
Referred To:	Not reported
Reported to Dept:	1997-12-10
CID:	999
Water Affected:	Not reported
Spill Source:	Unknown
Spill Notifier:	Police Department
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	2002-01-23
Recommended Penalty:	True
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1997-12-12
Spill Record Last Update:	2016-06-09
Spiller Name:	MARIO PUGLEISE - OWNER
Spiller Company:	WORLD OF SPORTS
Spiller Address:	5268 LEWISTON RD
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	FIRE DEPT RESPONDED TO FIRE @ ABOVE ADDRESS NOTED BUILDING APPEARS TO BEING STOPPED OUT USEABLE MATERIAL (COPPER WIRE ETC) SAYS SEVERAL TRANSFORMER SHELLS W/ OIL ON WOOD FLOOR OF BUILDING
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG 12/11/97: MNP INSP. MET W/ DETECTIVE MEGAN - BUFFALO PD ON SITE. WE SMELLED SMOKE FROM RECENT BURNING INSIDE MAIN PLANT. WE OBSERVED BURNED COPPER WIRE & PARTIALLY BURNED TRANSFORMERS ON CONCRETE PAD. ASHES & STEEL POKER LYING NEARBY. A COUPLE SMALL TREES HAD BEEN BROUGHT IN & STAGED IN THE NE CORNER OF THE BUILDING. SPOKE W/ 2 MEN, THEY WERE WORKING FOR THE OWNER MARIO PUGLEISI. AT OUR REQUEST THEY LOCATED MR. PUGLEISI WHO WAS ON SITE. WE SPOKE W/ MR. PUGLEISI, HE DENIED BURNING ANY WIRE OR TRANSFORMERS. HE SAID THEY WERE JUST STRIPPING & SALVAGING COPPER & STEEL FROM BUILDING. HE ADMITTED SPILLAGE OF OIL FROM A COMPRESSOR. I NOTED OIL SPILLAGE ON FLOOR NEXT TO BFC ROLLOFF & IN TRANSFORMER ROOM. MR. PUGLEISE SAID THIS SITE WAS FORMERLY OWNED BY VIBRATECH & DEC WAS AWARE OF ANY ENVIRONMENTAL PROBLEMS. ONE OF THE TRANSFORMERS WAS A WESTINGHOUSE MADE MADE IN

VIBRATECH INC. (Continued) **S102176404**

1956, TYPE F-100, DE-ION GRID OIL CIRCUIT BREAKER, 75 KV, SERIAL NUMBER 33Y6527. I ASKED IF I COULD TAKE PICTURES, PUGLEISE GRANTED ME PERMISSION, BUT ASKED ME TO STOP AFTER TAKING ONE PICTURE. HE WANTED TO CALL HIS LAWYER FIRST. I TOLD HIM WE WERE EXPECTING AN ECO TO ARRIVE SHORTLY. HE THEN ASKED HIS WORKERS TO LOCK THE OUTSIDE GATE TO THE FACILITY. WHILE WAITING I CONTACTED ECO RON BOSELLI BY RADIO & ADVISED HIM OF THE SITUATION. HE WAS ONLY 10 MINUTES AWAY. UPON RETURNING TO THE BUILDING MR. PUGLEISE WAS ON THE PHONE W/ HIS ATTORNEY - STEVEN COHEN. DETECTIVE MEGAN ALSO SPOKE W/ COHEN & ADVISED HIM OF THE NEED FOR COPERATION. ECO RON BUSELLI ARRIVED & OBTAINED INFO. FROM MR. PUGLEISE. I WAS THEN GRANTED PERMISSION TO TAKE PICTURES. THREE WESTINGHOUSE TRANSFORMERS SINGLE PHASE TYPE SL LOCATED IN THE TRANSFORMER ROOM WERE NUMBERED 11, 12, & 13. SERIAL NUMBERS FOR #11 - 3412518, #12 - 3412513, #13 - 3413725. I ADVISED MR. PUGLEISE OF THE HYDRAULIC OIL CLEANUP PROCEDURES, INCLUDING PROPER STAGING & DISPOSAL METHODS. I TOLD HIM DEC MAY REQUIRE PCB SAMPLING, DEPENDING WHAT INFO. WE GET FROM VIBRATECH. 12/12/97: MNP TELECON TO VIBRATECH. SPOKE W/ PAUL WILSON HE BELEIVED THAT THE PCB'S HAD BEEN TAKEN CARE OF, BUT WASN'T SURE. I TOLD HIM WE HAVE INFO. FROM THE PHASE1 REPORT INDICATED PCB'S IN SOME OF THE TRANSFORMERS, BUT NO DOCUMENTATION IN PHASE 2 NOR REMEDIATION FILES. WILSON SAID HE WILL LOOK FOR DOCUMENTATION, BUT MARIO PUGLEISE IS CURRENT OWNER & RESPONSIBLE FOR ANY PROBLEMS, EXCAEPT FOR ONGOING HAZ-WASTE MONITORING. 01/12/98: MNP TELECON WITH MR.PUGLEISE'S ATTORNEY, STEVEN COHEN. I TOLD HIM THAT MR.PUGLIESE DID NOT CLAIM THE CERTIFIED LETTER WE SENT NOR DID HE RETURN MY PHONE CALLS EITHER. MR.COHEN SAID HE WILL ACCEPT THE LETTER & COMPLY. I ALSO ADVISED HIM ABOUT THE TENTATIVE MEETING WITH ECO RON BOSELA ON WEDNESDAY 1/14/98. MR.COHEN DID NOT KNOW WHETHER HE COULD MAKE IT OR NOT, I GAVE HIM ECO BOSELA'S PHONE NUMBER. 2/03/98: JDC ON SITE W/ BECI INVESTIGATION AND MET W/ MR STEVEN COHEN WHO AUTHORIZED MY COLLECTION OF SAMPLES UNDER THE CURRENT COURT ORDER. COLLECTED SAMPLES FROM N.E. CORNER OF THE COMPLEX, WIPE SAMPLES OF FLOOR, TRANSFORMER ROOM AND CONCRETE PAD. 02/25/98: MNP REVIEWED WST 2/16/98 SAMPLE REPORT, NO PCB'S DETECTED FOR 1 OIL & 2 WIPE SAMPLES COLLECTED ON 2/3/98. 03/09/98: MNP REVIEWED WST PAYMENT PACKAGE FOR $485.00 RECEIVED ON 3/5/98, PAYMENT APPROVED. 6/22/99 FG SITE INSPECTION. MET REVEREND HARRIS ON SITE. ONE 55 GALLON DRUM OF OIL & WATER (MOSTLY WATER) WAS FOUND IN THE BUILDING. REVEREND HARRIS IS IN THE PROCESS OF PURCHASING THE PROPERTY. HE WILL SEND IN A DISPOSAL RECEIPT. 3/2/00 RECD UNCLAIMED LTR TO PROPHET HARRIS BACK. CITY OF BUFFALO REAL PROPERTY INDICATED THAT THE OWNER OF THE PROPERTY IS: WORLD SERIES OF SPORTS NY, INC, C/O LORENZO & COHEN LAW OFFICES, SUITE 1400, STATLER TOWER, BUFFALO, NY 14202. SENT A LTR REQUESTING AN UPDATE ON THE REMEDIATION STATUS TO WORLD SERIES OF SPORTS. A RESPONSE IS DUE ON 3/24/00. 3/21/00 MARIO PUGLIESE CALLED AND REQUESTED THAT WE SEND HIM A COPY OF COMPANIES WHICH ACCEPT WASTE OIL FOR RECYCLING WHICH WE FAXED HIM AT (905)357-6383. 9/18/00 MAURICE MOORE WITH THE NYSDEC, INACTIVE HAZARDOUS WASTE PROGRAM SENT ME A NOTE THAT HE INSPECTED THE SITE ON 9/15/00 AND DISCOVERED OIL IN MW6. HE REFERRED THIS PROBLEM TO THE SPILLS GROUP. 9/21/00 LTRS SENT TO VIBRATECH AND MARIO PUGLIESE REQUESTING THAT THEY EITHER ALLOW NYSDEC TO COMPLETE THE SITE WORK OR DO IT THEMSELVES. A RESPONSE IS DUE 10/6/00. 9/28/00 BRYAN KEYT WITH BELL BOYD & LLOYD CALLED FOR VIBRATECH AND SAID THAT THEY WILL PROVIDE A RESPONSE BY 11/6/00. HIS PHONE NUMBER IS 312-807-4328. 10/2/00 BRYAN KEYT SENT A LETTER STATING THEY WILL PROVIDE A RESPONSE BY 11/6/00. 8/31/01 FG JFO MAURICE MOORE, NATURE'S WAY-RUSS SAVAGE &

VIBRATECH INC. (Continued) **S102176404**

JAMIE HALL SITE VISIT. MARIO PUGLIESE WAS NOT ON SITE BUT THE MAINTENANCE MAN WAS ON SITE AND SAID THAT THE SIDE DOOR WAS OPEN AND WE COULD GO IN. SEVERAL DRUMS WITH OIL WERE FOUND. THE FLOORING WAS ALL PILED UP. IT IS SOAKED WITH OIL. VIBRATECH WILL BE SAMPLING THE WELLS ON 9/6/01. NATURE'S WAY WILL BE ON SITE TO COLLECT SAMPLES AT THE SAME TIME. WATER IN THE BASEMENT HAD OIL ON IT. MR. PUGLIESE CALLED THE OFFICE PER SAL CALANDRA AT 10:15 INDICATING HE COULD NOT MEET US AT THE SITE. 09/06/01 JFO MET WITH DUSTIN STEINER, DAVID TYRAN AND JANE ALL FROM CRA AND RUSS SAVAGE OF NATURE'S WAY. THEY COLLECTED SAMPLES FROM THE 3 WELLS. RUSS GOT A SAMPLE FROM THE 1 WELL WITH THE OIL. HE WILL ANAYLZE FOR 310.13, 8021 AND 8270. RESULTS TO FOLLOW. THERE WAS A LAYER OF PRODUCT IN THE WELL. A SUBSURFACE INVESTIGATION WILL IS NECESSARY. 09/14/01 RCVD ABOVE-NOTED ANALYTICAL RESULTS FOR MW6. THE 310.13 INDICATES LUB OIL 8260 VINYL CHLORIDE 23.1 PPB 1,1-DICHLOROETHANE 99.9 PPB CTS-1,2-DICHLOROETHENE 96.5 PPB TETRACHLOROETHENE 10.8 PPB ALL OTHER COMPOUNDS ON THE 8260 AND ALL ON THE 8270 ARE less than DL 09/24/01: KAB/DALE GRAMZA, NATURE'S WAY/TELECON (1000 HRS) - MR. GRAMZA INDICATED THAT HE WAS AT THE PROPERTY TO DO SOME SAMPLING AND THAT THE LOCK ON THE GATE HAD BEEN CHANGED. ADVISED THAT I WOULD CALL HIM BACK. SPOKE TO JOE HOUSEBECK, DEC ATTY., WHO ADVISED THAT THERE WAS AN AGREEMENT THAT SITE COULD NOT BE ACCESSED UNLESS MR. PUGLIESSI IS PRESENT. KAB CONTACTED DALE GRAMZA AND ADVISED THAT FG IS ON INDEFINITE LEAVE AND THAT, PER OUR ATTORNEY, WORK ON THE PROPERTY SHOULD BE CEASED UNTIL FURTHER NOTICE. 09/24/01: JFO RETURNED TO OFFICE AND ADVISED THAT DALE GRAMZA HAD PAGED HIM AND WANTED TO GAIN ACCESS TO THE SITE. THAT CONVERSATION WAS AT APPROXIMATELY 12:00 P.M., 2 HOURS AFTER MR. GRAMZA HAD BEEN ADVISED THAT HE WAS NOT TO ENTER THE SITE UNTIL FURTHER NOTICE. 10/25/01 JFO REC'D PAYMENT REQUEST FOR WORK DONE 8/31/01 THRU 9/24/01. 687.41. SUBMITTED TO SAC. PJB INFORMED JFO THAT HE HAS RECEIVED A KEY FOR THE FENCE FROM MR PUGLIESE. HE WILL KEEP IT IN HIS DESK DRAWER. 11/16/01 JFO ON SITE MET WITH DALE GRAMZA AND HELPER BOTH OF NATURE'S WAY. THEY WILL DO SOME SOIL BORINGS. JFO BACK ON SITE, THERE IS A CONCRETE SLAB APPROX 4' UNDER THE SLOPE OF THE DOCK. 12/07/01: MF FOR FG, NW SUBMITTED PROPOSAL FOR BEDROCK MW INSTALLATION. LETTER TO NW, NEED MORE DETAIL. RESPONSE BY 1/7/02. 01/18/02 JFO OPENED THE GATE FOR NATURE'S WAY. MET WITH DALE, LUI AND STEVE, ON SITE IS THE DRILL RIG AND A VAN. THEY WILL DRILL 4 ROCK WELLS OUTSIDE AND POSSIBLY 2 INSIDE. THEY WILL ALSO SAMPLE THE DRUM INSIDE AND INSPECT THE BASEMENT. JFO BACK ON SITE MET WITH DALE G LUI AND STEVE. THEY HAVE ONE WELL DRILLED. THEY FOUND ANOTHER DRUM INSIDE. DALE WILL SAMPLE THE DRUMS ON MONDAY (HOLIDAY) AND HE WILL ALSO SAMPLE THE WOOD BLOCKS ON TUESDAY. MAURICE MOORE OF DER SUGGESTS WE COLLECT 5 BLOCKS FROM THE 5 PILES. DALE WILL SAMPLE THE 5 LARGEST PILES (5 BLOCKS WILL BE ONE SAMPLE) ALSO HE WILL SUBMIT A SKETCH OF WHERE EACH PILE IS LOCATED. THERE IS ABOUT 1 1/2 FEET OF WATER IN THE BASEMENT. DALE WILL ENTER AND SEARCH FOR A SHEEN. I WILL RETURN AT 4:00 TO LOCK THE GATE. ALSO THEY INTEND TO WORK ON MLK DAY. I WILL UNLOCK THE GATE FOR THEM AT 7AM. JFO ON SITE AT 4PM. 1 WELL HAS BEEN INSTALLED. 01/21/02 JFO ON SITE TO UNLOCK THE GATE FOR NW. DALE AND STEVE ARRIVED AT 9AM THE DRILL RIG AND THE VAN. THEY WILL SAMPLE THE DRUMS AND INSTALL MORE WELLS. THEY WILL SAMPLE THE WOODEN BLOCKS TOMORROW. JFO BACK ON SITE 2 WELLS HAVE BEEN INSTALLED. I WILL BE BACK ON SITE IN THE MORNING TO UNLOCK THE GATE. 01/22/02 JFO ON SITE MET WITH DALE AND STEVE, ALSO ON SITE ARE THE DRILL RIG AND THE VAN. THEY ARE JUST FINISHING THE WELL INSIDE THE BLDG. DALE AND I SAMPLED THE 5 LARGEST PILES OF WOODEN BLOCKS. THERE IS CONCRETE, ELECTRICAL

VIBRATECH INC. (Continued) **S102176404**

CONDUIT, FIBERGLAS, GLASS AND RAGS IN EACH OF THE PILES. DALE WILL BE ON SITE TOMORROW. I WILL UNLOCK THE GATE TOMORROW MORNING. 01/23/02 JFO ON SITE MET WITH DALE (VAN ALSO ON SITE) HE IS FILLING IN THE AREAS AROUND THE TOP OF THE WELLS WITH CONCRETE. HE DISCOVERED SEVERAL INCHES OF PRODUCT IS TWO OF THE WELLS THIS MORNING. IT IS BELEIVED TO BE #6 OIL. HE WILL CONTACT ME WHEN HE NEEDS ACCESS AGAIN. 02/11/02: MF FOR FG RECEIVED THE RESULTS FROM NW INVESTIGATION: DOH 310-13 RESULTS: MW1-02 - LUBE OIL PRESENT: MW3-02 - ND: EXISTING MW6 - ND: BASEMENT WATER - ND: DRUM WATER - LUBE OIL DETECTED. 8270 RESULTS: MW1-02, MW2-02, MW3-02, MW4-02, MW5-02, EXISTING MW2, EXISTING MW6, EXISTING MW7, DRUM WATER, BASEMENT WATER ALL ND. 8260 RESULTS, IN PPB. MW1-01 - 1,1-DCA-27.1: cis 1,2-DCE - 43: TOLUENE - 4.6 MW2-02 - ND MW3-02 - 1,1-DCA-45.3: cis 1,2-DCE - 37.5 MW4-02 - VINYL CHLORIDE-14.3: 1,1-DCA - 95.7: cis 1,2-DCE-28.5 MW5-02 - 1,2,4 TMB - 4.7: sec-BUTYLBENZENE - 4.4 EXISTING MW2 - VINYL CHLORIDE - 33.9: CHLOROETHANE - 22: 1,1 DCA - 182: cis 1,2 DCE - 195.5 1,1,1-TCA - 23.7 EXISTING MW6 - cis 1,2 DCE - 10.3 EXISTING MW7 - ND: BASEMENT WATER - ND: DRUM WATER - ND STOCKPILED WOOD FLOORING SAMPLING RESULTS SHOW THAT THEY ARE NON HAZ & ACCEPTABLE FOR DISPOSAL AT A SECURE LANDFILL. 2/18/02:PROCESSED PAY PACKAGE NO. 2 FROM LOZIER/EXPRESS FOR $447.22, INVOICE NO. 15890, FOR 2 DOH METHOD 310.13, FOR 2 METHOD 8260 AND FOR 2 METHOD 8270. 2/18/02:PROCESSED PAY PACKAGE NO. 3 FROM LOZIER/EXPRESS FOR 1487.39, INVOICE NO. 15897, FOR 8 METHOD 8260, 8 METHOD 8270, AND 3 METHOD 310.13. 2/18/02:PROCESSED PAY PACKAGE NO. 4 FROM LOZIER/EXPRESS FOR $358.72, INVOICE NO. 15904, FOR 2 METHOD 8260, AND 2 METHOD 8270. 02/19/02: MF PROCESSED PAY PACKAGE #5 FROM LOZIER FOR $639.56, TCLP METALS - NON-HAZ, IGNITABILITY, ph-5.8, SULFIDES- less than 20 PPM, CYANIDE- less than 20 PPM, PCB'S - BDL, PESTICIDES - BDL, 8270 TCLP - BDL. INVOICE # 15900. 02/25/02: MF RECEIVED THE SOIL ANALYTICAL RESULTS FROM EXPRESS LABS FOR EPA 8260 & 8270 FROM THE BORINGS COMPLETED ON SITE. 8270 MW1-02(10.5-11.8) - ND MW3-02(7.0-9.0) - ND 8260 MW1-02(10.5-11.8) - ND MW3-01(7.0-9.0) - ND 03/18/02: REC'D ANALYTICAL DATA COMPLETED BY EXPRESSLAB FROM THE WORK COMPLETED ON THIS SITE BY NATURES WAY FOR NYSDEC: ON 1/22/02, A COMPOSITE OF THE WOOD FLOORING WAS COLLECTED. THE RESULTS ARE: TCLP ARSENIC ND TCLP SELENIUM .008 mg/l TCLP CADMIUM .021 mg/l TCLP CHROMIUM .003 mg/l TCLP BARIUM .212 mg/l TCLP SILVER .005 mg/l TCLP LEAD .010 mg/l TCLP MERCURY .002 mg/l IGNITABILITY - NEGATIVE CORROSIVITY - pH = 5.80 REACTIVITY - SULFIDE less than 20 PPM CYANIDE less than 20 PPM PCB'S - ND TCLP 8260 - ND EPA 8081 - ND TCLP 8270 - ND A BASEMENT AND DRUM WATER SAMPLE WAS ALSO COLLECTED ON 1/22/02 FOR DOH 310-13, EPA METHODS 8270 AND 8260 ANALYSIS: BASEMENT WATER - DOH 310-13 ND DRUM WATER - DOH 310-13 LUBE OIL - 42.9 PPM BASEMENT WATER - 8270 - ND DRUM WATER - 8270 - ND BASEMENT WATER - 8260 - ND DRUM WATER - 8260 - ND SOIL SAMPLES FROM THE BORINGS COMPLETED BY NATURES WAY WERE COLLECTED ON BOTH 1/21/02 AND 1/22/02 AND ANALYZED FOR EPA METHODS 8260 AND 8270: MW1-02 SAMPLE #6 (10.5-11.8) - 8270 - ND, 8260 - ND MW3-02 SAMPLE #4 (7.0-9.0) - 8270 - ND, 8260 - ND GROUNDWATER SAMPLES FROM ALL SITE WELLS WERE COLLECTED ON 1/23/02 AND WERE ALALYZED FOR DOH 310-13, EPA METHODS 8270 AND 8260: DOH 310-13 - MW1-02 - 16.3 PPM LUBE OIL MW3-02 - ND MW6 - ND EPA METHOD 8270 RESULTS: MW1-01-ND, MW2-02-ND, MW3-02-ND, MW4-02-ND, MW5-02-ND, EXISTING MW2-ND, EXISTING MW6-ND, EXISTING MW7-ND EPA METHOD 8260 RESULTS: MW1-02: 1,1-DICHLOROETHANE 27.1 PPB CIS-1,2-DICHLOROETHANE 43.0 PPB TOLUENE 41.6 PPB MW2-02: ND MW3-02: 1,1-DICHLOROETHANE 45.3 PPB CIS-1,2-DICHLOROETHANE 37.6 PPB MW4-02: VINYL CHLORIDE 14.3 PPB 1,1-DICHLOROETHANE 95.7 PPB CIS-1,2-DICHLOROETHANE 28.5 PPB MW5-02:

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1,2,4-TRIMETHYLBENZENE 4.7 PPB SEC-BUTYLBENZENE 4.4 PPB EXISTING MW2: VINYL CHLORIDE 33.9 PPB CHLOROETHANE 22.0 PPB 1,1-DICHLOROETHANE 181.9 PPB CIS- 1,2-DICHLOROETHANE 195.5 PPB 1,1,1-TRICHLOROETH ANE 23.7 PPB EXISTING MW6: CIS-1,2-DICHLOROETHENE 10.3 PPB EXISTING MW7: ND NATURES WAY IS TO SUBMIT A REPORT OF THEIR FINDINGS. JFO, MAURICE & JOE CCED ON THIS. 03/21/02: MF FOR FG CHRIS ZIOLKOWSKI 856-8517 CALLED & SAID HE IS PURCHASING THE PROPERTY. HE IS PURCHASING THE PROPERTY FROM SILENT PARTNER GROUP, LEE CARMEN, 1-800-766-6784. 04/29/02 JFO TO MEET NATURE'S WAY ON SITE TO REMOVE AND DISPOSE THE DRUM OF OILY WATER. 06/07/02: MF RECEIVED A LETTER FROM VIBRATECH INDICATING THEY WILL CONTINUE TO MONITOR. 12/12/02: JAA/FILE. ON 6/24 NATURE'S WAY PROVIDED REPORT ON ADDITIONAL FIELD WORK NEEDED TO COMPLETE SUBSURFACE INVESTIGATION. ON 10/11/02: MLD SPOKE TO JERVIS SLATER ABOUT SITE, 871-1396. HE WAS INTERESTED IN PURCHASING AT AUCTION. MLD INFORMED HIM OF VIBRATECH OBLIGATIONS TO MONITOR, AND REQUIREMENT FOR SPILL INVESTIGATION AND REMEDIATION. 12/24/02 FG SPOKE TO DALE GRAMZA WITH NATURE'S WAY. HE WILL PREPARE A REPORT OF BACKGROUND INFORMATION AND SURVEY THE SITE. A MAP WILL BE GENERATED AND DECISIONS ON ADDITIONAL FIELD WORK WILL BE MADE AFTER THIS. 1/8/03 FG SITE INSPECTION ALONG WITH DALE GRAMZA OF NATURE'S WAY. WE COLLECTED A PRODUCT SAMPLE FROM THE UST ON SITE TO BE ANALYZED FOR DOH 310-13. IT WAS TAKEN FROM 15,000 GALLON FUEL OIL REGISTERED UST FURTHEST NORTH. DALE HAD ALREADY TAKEN A SAMPLE FROM THE OTHER UST ON HIS LAST INSPECTION. THE REASON FOR THE SAMPLES IS TO TRY TO COMPARE PRODUCT WITH THE OIL FOUND IN THE WELLS THAT HAD BEEN INSTALLED IN BEDROCK BY NATURE'S WAY. DALE GRAMZA'S LAST INSPECTION REVEALED THAT TWO FEET OF PRODUCT IS PRESENT IN THESE WELLS. MR. GRAMZA BELIEVES THAT THE SOURCE MAY BE THESE UST'S. MET DAN TREDO ON SITE. HE IS PLACING JUNK VEHICLES IN THE BUILDING AND MAY BE DUMPING FLUIDS. ADDITIONAL BEDROCK WELLS WILL BE INSTALLED NEXT WEEK TO DETERMINE THE SOURCE OF THE NEWLY DISCOVERED PRODUCT IN THE WELLS. THIS WILL BE DONE ONCE THE OWNERS ARE CONTACTED. 01/20/03 JFO ON SITE MET WITH DALE G OF NATURE'S WAY. THEY ARE AT APPROX 8' ON THE FIRST WELL. NO PRODUCT YET. 01/23/03 JFO CALL FROM DALE GRAMZA OF NATURE'S WAY. THEY WILL NOT BE ON SITE TODAY OR TOMORROW. HE SAID WORK WILL RESUME ON MONDAY JAN 27. 1/28/03 FG SITE INSPECTION. NATURE'S WAY ON SITE CONTINUING BEDROCK WELLS. SO FAR, 5 WELLS HAVE BEEN INSTALLED. 4 OF THE WELLS SHOWED SIGNS OF PETROLEUM ON THE BEDROCK. ADDITIONAL WELLS WILL BE INSTALLED TO DETERMINE THE EXTENT OF THE CONTAMINATION. 2/4/03 RECD THE RESULTS FROM THE SAMPLE COLLECTED FROM THE OTHER UST ON SITE. THE RESULTS SHOW THAT FUEL OIL #2 IS PRESENT. 2/4/03 MARIO PUGLIESE REQUESTED THAT THIS OFFICE FAX HIM THE MOST RECENT LETTERS THAT WERE SENT TO HIM. THIS WAS DONE. 4/9/03 RECD GROUNDWATER SAMPLING RESULTS. MW1 SHOWED ND. MW4 SHOWED THAT LUBRICATING OIL IS PRESENT. MW8 SHOWED THAT LUBICATING OIL IS ALSO PRESENT. 4/24/03 RECD ANALYTICAL RESULTS FROM UST SAMPLES FOR PCB'S. NO PCB'S WERE DETECTED. 5/6/03 RECD ANALYTICAL RESULTS FROM LSL FOR MW1 - 8270, 8260 AND DOH310-13 ALL ND. MW4 -LUBRICATING OIL PRESENT. MW8 LUBRICATING OIL PRESENT. 11/21/03 RECD NATURE'S WAY REPORT OF FINDINGS. SUBMITTED A COPY TO VIBRATECH AND MARIO PUGLIESE REQUESTING REMEDIATION WITH A RESPONSE DUE BY 12/17/03. 1/20/04 FG SPOKE TO MARIO PUGLIESE, OWNER OF PROPERTY. HE RECEIVED OUR LETTERS AND IS RESPONDING BY THIS CALL. HE DOES NOT FEEL HE IS RESPONSIBLE FOR THE WORK THAT IS NECESSARY ON SITE AND WILL NOT SPEND ANY ADDITIONAL MONEY ON CLEANUP BECAUSE HE DOESN'T HAVE IT. HE REQUESTED THE NAME AND NUMBER OF VIBRATECH AND WILL CALL THEM. HE SAID HE HAD AN AGREEMENT WITH THEM PRIOR TO HIS PURCHASE OF THE PROPERTY. 1/20/04 FG

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CALLED VIBRATECH AT 937-6600. THE NUMBER WAS TRANSFERRED TO HORSCHEL BROS IN SPRINGVILLE. THEY SAID THAT VIBRATECH IS IN BANKRUPTCY AND THE ATTORNEY FOR THE BANKRUPTCY IS RING. HE SAID VIBRATECH IS LIQUIDATED. 2/13/04 LETTER SENT TO MARIO PUGLIESE REQUESTING SITE ACCESS BECAUSE VIBRATECH IS BANKRUPT. RESPONSE IS DUE 3/16/04. 4/2/04 RECD ESTIMATE FOR UST REMOVAL FROM NATURE'S WAY AND FAXED TO MARIO PUGLIESI AT 519-686-0176. HE SAID HE WOULD CALL BACK. 4/13/04 FG SPOKE TO MARIO PUGLIESE WHO SAID THAT HE RECEIVED THE FAX OF THE COST ESTIMATE FOR THE UST REMOVALS AND HAS FORWARDED IT TO HIS CONTRACTOR. HE HAS NOT HEARD BACK FROM HIS CONTRACTOR WITH A PRICE. HE WILL NOTIFY THIS OFFICE BY THE END OF THIS WEEK,4/16/04 WHETHER OR NOT HE WILL COMPLETE THE WORK OR ALLOW NYSDEC TO COMPLETE THE WORK. 4/22/04 FG SPOKE TO MARIO PUGLIESE, 905-932-4412 WHO SAID THAT HE WILL GET BACK TO ME BY 4/30/04 WITH A COMMITTMENT FROM HIS CONTRACTOR, DNL CONSTRUCTION, FROM PA AS TO WHEN THEY WILL COMPLETE THE UST REMOVAL. 6/23/04 RECD A RESPONSE TO AN RP LETTER TO IDEX. THEY INDICATE THEY ARE NOT RESPONSIBLE. THEY STATE THEY MERELY OWNED STOCK IN VIBRATECH. 7/15/04 MR. PUGLIESE HAS NOT RESPONDED TO LEGAL'S REQUEST FOR ACTION ON THE PBS/UST ISSUE. LEGAL HAS REQUESTED THAT I WAIT FOR THAT ACTION TO BE RESOLVED BEFORE I PROCEED WITH ANYTHING ON THE SPILLS SIDE. 6/9/05 SPILL SITE REFERRED TO THE LONG TERM REMEDIATION GROUP. SPILL SITE IS CLOSED. SPILL FILE GIVEN TO LONG TERM. 06/17/06 (CRS) Marty Doster and myself met on-site with Kevin Mathies and Joe Consentino (both with EPA). EPA was completing a walk through of the building to determine if hazardous materials may exists within the building. Joe Consentino outlined the following potential issues in a follow-up e-mail: On site observations indicate a need to conduct a comprehensive sampling investigation to confirm or dispel the presence of hazardous waste and/or hazardous substances at the site. Substances believed present include; mercury (switches, bulbs and vapor lamps), asbestos (pipe and boiler wrap), petroleum hydrocarbons, oils and greases, PCB ballast on old fluorescent lights and possible peeling lead paint. Several drums(55 gallon) and smaller containers were located throughout the site buildings will require sampling. In addition, wooden block floors, sumps and drains appear heavily contaminated and need to be investigated. 06/08/06 RMC/FILE. SITE ACTIVE UNDER CHAD STANISZEWSKI. 06/08/06 (CRS) Unrestricted site access granted by Mario Pugliese's attorney, Steven Cohen, in a letter to the AG dated May 7, 2006. DEC received notification that access was granted in a letter from the AG's office dated May 22, 2006. 06/15/06 (CRS) Cut existing EPA chains on two access gates and placed a new lock on the chains (in addition to the EPA locks which already existed). DEC now has access to the site via two gates: the eastern most gate on E. Delevan and the eastern most gate on Northland Drive. 06/19/06 (CRS) Met on-site with Gary House and Brian Hutzler of OpTech Environmental Services to access removal of the two fuel oil tanks on the east side of the building. Approximately 2-3 feet of product in each tank. Bottom of tanks appear to be approximately 10-12 feet below ground. Also, informed Op-Tech that we would like product removed from all existing wells that currently contain product ((6) wells total MW6, MW1-02, MW3-02, MW4-02, MW5-02 and MW8-03). OpTech indicated they should be able to mobilize in a couple of weeks. 08/04/06 - 08/10/06 (CRS) Optech on-site to clean the two underground No. 6 fuel oil tanks. The fuel oil in each tank was removed with a vac. truck (the oil in the southern tank was heated with a boiler/enclosed steam pipe for (3) days to thin the oil prior to removal). The tanks were swept with No. 2 fuel oil to remove

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residual oil on the tank walls, pressure washed and wiped with adsorbent pads. The tanks were cleaned in place. The northern tank was excavated and removed from the ground. The sand bedding around the tank was generally not visually impacted, however, when the bedding material was removed from the excavation, oil began seeping out of the bedrock. It is not believed that the oil seeping from the bedrock originated from the north tank. The tank was in good condition with no holes observed. Additional investigation is necessary. Testing on the oil leaking from the bedrock identified the oil as #6 fuel. The southern tank was not removed due to its proximity to a smoke stack. Optech was concerned that removal of the tank may undermine the stability of the stack. The south tank was left in place, empty. 02/14/14 (CRS) Site continues to be investigated under the Superfund program to address historic TCE contamination. Additional spills investigation of on-site oil anticipated following Superfund work. 6/9/16 NO FURTHER WORK WILL TAKE PLACE UNDER THIS SPILL. ALL WORK IS BEING CONDUCTED UNDER THE HAZARDOUS WASTE SITE 915165. ALL FOLLOWUP WILL BE UNDER THAT SITE NUMBER. THIS SPILL IS CLOSED WITH NO FURTHER WORK REQUIRE.

All Materials:

Site ID:	170344
Operable Unit ID:	1053502
Operable Unit:	01
Material ID:	328797
Material Code:	0013
Material Name:	lube oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Site ID:	170344
Operable Unit ID:	1053502
Operable Unit:	01
Material ID:	328795
Material Code:	0001A
Material Name:	#2 fuel oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	HW SITE AT 537 E. DELAVAN
Address:	537 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9508960 / 1996-01-04
Facility ID:	9508960
Facility Type:	ER
DER Facility ID:	118124
Site ID:	138132

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DEC Region:	9
Spill Cause:	Other
Spill Class:	C4
SWIS:	1502
Spill Date:	1995-10-20
Investigator:	RMCROSSE
Referred To:	Not reported
Reported to Dept:	1995-10-20
CID:	199
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1995-10-20
Spill Record Last Update:	2002-03-21
Spiller Name:	BOB JOHNSON
Spiller Company:	VIBRATECH
Spiller Address:	537 EAST DELAVAN AVENUE
Spiller Company:	001
Contact Name:	BOB JOHNSON
DEC Memo:	CALLER WAS DOING SOME FIELD WORK(EXCAVATING) TO BUILD A SOIL EXTRACTION UNIT UNDER A NYS CONTRACT-WHILE DIGGING THEY FOUND WHAT APPEARS TO BE A HISTORIC SPILL OF UNK QUANTITY OF #6 FUEL OIL APPROX 8FT BY 10FT AREA CONTAMINATED - THERE WAS A DEC REP ON SITE
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was RMC 10/23/95 SAC/KELLY MCINTOSH/PHONE DISCUSSED SPILLAGE, SEE PAPER FILE TEST RESULTS AND DISPOSAL DUE 11/30/95 1/4/96 RMC/SAC/MAURICE MOORE/MEETING REMOVED 8 ROLLOFFS SOIL FROM SITE, FOUND CONTAMINATION WHILE DOING A TCE REMEDIATION PROJECT, REMEDIATION WILL OBTAIN EXCAVATION SAMPLE RESULTS AND DISPOSAL RECEIPTS UNDER HWR 915165, CLOSE OUT AS A SPILLS ISSUE.

All Materials:

Site ID:	138132
Operable Unit ID:	1023302
Operable Unit:	01
Material ID:	359926
Material Code:	0003A
Material Name:	#6 fuel oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	VIBRATECH
Address:	537 EAST DELAVAN
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9509850 / 1995-11-21

VIBRATECH INC. (Continued) **S102176404**

Facility ID:	9509850
Facility Type:	ER
DER Facility ID:	143339
Site ID:	170343
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	C6
SWIS:	1502
Spill Date:	1995-11-08
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1995-11-08
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	DEC
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	1995-11-08
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1995-11-08
Spill Record Last Update:	2002-03-21
Spiller Name:	BLANK
Spiller Company:	VIBRATECH
Spiller Address:	537 EAST DELAVAN
Spiller Company:	001
Contact Name:	BLANK
DEC Memo:	LARGE SHEEN IN PARKING LOT / POSSIBLE LEAKAGE FROM TRUCK
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 11/8/95:SAC INSPECT,MET W/BILL LEES-VIBRATECH,ABSOBENT PLACE ON SHEEN,SPILL WAS PROBABLY FROM A NOCO TRUCK WHICH DRIPPED FUEL AFTER A DELIVERY,VIBRATECH TO SWEEP UP THE ABSORBENT & DISPOSE INTO REGULAR WASTE STREAM.

All Materials:

Site ID:	170343
Operable Unit ID:	1024160
Operable Unit:	01
Material ID:	360782
Material Code:	0008
Material Name:	diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	VIBRATECH, INC.
Address:	537 EAST DELAVAN
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8805725 / 1989-02-06
Facility ID:	8805725
Facility Type:	ER

VIBRATECH INC. (Continued) **S102176404**

DER Facility ID:	143339
Site ID:	170342
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	1988-10-05
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	1988-10-05
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	1989-02-06
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1988-10-06
Spill Record Last Update:	1996-01-10
Spiller Name:	Not reported
Spiller Company:	VIBRATECH, INC.
Spiller Address:	537 EAST DELAVAN
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	SMALL DRIP, WILL REPLACE TRANSFORMER, NOT LEAKING NOW.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MF 10/06/88: MF TELECON WILLIAM LEES, NOT IN, LEFT MESSAGE TO CALL ME. (0820). 10/06/88: MF BILL LEES TELECON, HE CLAIMED BUFFALO ELECTRIC HIRED TO CHANGE TX, & ENSCO ENVIRONMENTAL HIRED TO CLEAN AREA AND DISPOSE OF TX'S. TX CONTAIN 500K PPM PCB'S. TX NOT LEAKING NOW. 12/02/88: MF TELECON WALT GASIOR (VIBRATECK), HE CLAIMED BUFFALO ELECTRIC TO START JOB POSSIBLY MONDAY 12/5/88. HE WILL CALL WHEN DATE FIRM. 01/17/89: MF TELECON WALT GASIOR, HE CLAIMED BUFFALO ELECTRIC DISCONNECTED TRANSFORMERS. HE IS NOW WAITING FOR EMSCO TO DISPOSE OF SAME. HE WILL SEND RECEIPTS. 02/06/89: MF RECIIVED COPY OF DISPOSAL RECEIPT, NO FUTHER ACTION NECESSARY.

All Materials:

Site ID:	170342
Operable Unit ID:	922666
Operable Unit:	01
Material ID:	457632
Material Code:	0064A
Material Name:	unknown material
Case No.:	Not reported
Material FA:	Other
Quantity:	1.00
Units:	G
Recovered:	1.00
Resource Affected:	Soil
Oxygenate:	Not reported

H35 **WORLD SERIES OF SPORTS NY INC.** **NY UST** **U003316646**
North **537 E DELAVAN AVE** **NY AST** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.187 mi.
989 ft. **Site 4 of 8 in cluster H**

Relative:
Higher

Actual:
652 ft.

UST:

Name:	WORLD SERIES OF SPORTS NY INC.
Address:	537 E DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14211
Id/Status:	9-054313 / Unregulated/Closed
Program Type:	PBS
Region:	STATE
DEC Region:	9
Expiration Date:	N/A
UTM X:	186844.22040
UTM Y:	4759085.61145
Site Type:	Manufacturing (Other than Chemical)/Processing

Affiliation Records:

Site Id:	52432
Affiliation Type:	Facility Owner
Company Name:	MARIO PUGLIESE
Contact Type:	Not reported
Contact Name:	Not reported
Address1:	5268 LEWISTON ROAD
Address2:	Not reported
City:	LEWISTON
State:	NY
Zip Code:	14092
Country Code:	001
Phone:	(716) 285-0639
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	52432
Affiliation Type:	Mail Contact
Company Name:	WORLD SERIES OF SPORTS NEW YORK INC
Contact Type:	Not reported
Contact Name:	MARIO PUGLIESE
Address1:	P O BOX 347
Address2:	Not reported
City:	LEWISTON
State:	NY
Zip Code:	14092
Country Code:	001
Phone:	(716) 895-8000
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	52432
Affiliation Type:	Facility Operator
Company Name:	WORLD SERIES OF SPORTS NY INC.
Contact Type:	Not reported
Contact Name:	MARIO PUGLIESE
Address1:	Not reported

WORLD SERIES OF SPORTS NY INC. (Continued) **U003316646**

Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 895-8000
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	52432
Affiliation Type:	Emergency Contact
Company Name:	MARIO PUGLIESE
Contact Type:	Not reported
Contact Name:	MARIO PUGLIESE
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 285-0639
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Tank Info:

Tank Number:	1
Tank ID:	161687
Tank Status:	Closed - In Place
Material Name:	Closed - In Place
Capacity Gallons:	15000
Install Date:	Not reported
Date Tank Closed:	08/09/2006
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	0003
Common Name of Substance:	#6 Fuel Oil (On-Site Consumption)

Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

B00 - Tank External Protection - None
F00 - Pipe External Protection - None
A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
I04 - Overfill - Product Level Gauge (A/G)
H00 - Tank Leak Detection - None

WORLD SERIES OF SPORTS NY INC. (Continued) **U003316646**

L09 - Piping Leak Detection - Exempt Suction Piping
C03 - Pipe Location - Aboveground/Underground Combination
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Number: 2
Tank ID: 161688
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 15000
Install Date: Not reported
Date Tank Closed: 08/09/2006
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Material Code: 0003
Common Name of Substance: #6 Fuel Oil (On-Site Consumption)

Tightness Test Method: NN
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

F00 - Pipe External Protection - None
B00 - Tank External Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
L09 - Piping Leak Detection - Exempt Suction Piping
H00 - Tank Leak Detection - None
I04 - Overfill - Product Level Gauge (A/G)
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser
C03 - Pipe Location - Aboveground/Underground Combination

AST:
Name: WORLD SERIES OF SPORTS NY INC.
Address: 537 E DELAVAN AVE
City,State,Zip: BUFFALO, NY 14211
Region: STATE
DEC Region: 9
Site Status: Unregulated/Closed
Facility Id: 9-054313
Program Type: PBS
UTM X: 186844.22040
UTM Y: 4759085.61145
Expiration Date: N/A
Site Type: Manufacturing (Other than Chemical)/Processing

Affiliation Records:
Site Id: 52432
Affiliation Type: Facility Owner
Company Name: MARIO PUGLIESE
Contact Type: Not reported
Contact Name: Not reported

WORLD SERIES OF SPORTS NY INC. (Continued) **U003316646**

Address1:	5268 LEWISTON ROAD
Address2:	Not reported
City:	LEWISTON
State:	NY
Zip Code:	14092
Country Code:	001
Phone:	(716) 285-0639
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	52432
Affiliation Type:	Mail Contact
Company Name:	WORLD SERIES OF SPORTS NEW YORK INC
Contact Type:	Not reported
Contact Name:	MARIO PUGLIESE
Address1:	P O BOX 347
Address2:	Not reported
City:	LEWISTON
State:	NY
Zip Code:	14092
Country Code:	001
Phone:	(716) 895-8000
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	52432
Affiliation Type:	Facility Operator
Company Name:	WORLD SERIES OF SPORTS NY INC.
Contact Type:	Not reported
Contact Name:	MARIO PUGLIESE
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 895-8000
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	52432
Affiliation Type:	Emergency Contact
Company Name:	MARIO PUGLIESE
Contact Type:	Not reported
Contact Name:	MARIO PUGLIESE
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001

WORLD SERIES OF SPORTS NY INC. (Continued) **U003316646**

Phone:	(716) 285-0639
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Tank Info:

Tank Number:	3
Tank Id:	161689
Material Code:	0003
Common Name of Substance:	#6 Fuel Oil (On-Site Consumption)

Equipment Records:

	G01 - Tank Secondary Containment - Diking (Aboveground)
	A00 - Tank Internal Protection - None
	D01 - Pipe Type - Steel/Carbon Steel/Iron
	H00 - Tank Leak Detection - None
	I00 - Overfill - None
	B00 - Tank External Protection - None
	F00 - Pipe External Protection - None
	C03 - Pipe Location - Aboveground/Underground Combination
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	15000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	07/01/1996
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#6 fuel oil (on-site consumption)

Tank Number:	4
Tank Id:	161690
Material Code:	0003
Common Name of Substance:	#6 Fuel Oil (On-Site Consumption)

Equipment Records:

	H00 - Tank Leak Detection - None
	I00 - Overfill - None
	A00 - Tank Internal Protection - None
	D01 - Pipe Type - Steel/Carbon Steel/Iron
	B00 - Tank External Protection - None
	F00 - Pipe External Protection - None
	G01 - Tank Secondary Containment - Diking (Aboveground)
	C03 - Pipe Location - Aboveground/Underground Combination
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron

WORLD SERIES OF SPORTS NY INC. (Continued) **U003316646**

Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	15000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	07/01/1996
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#6 fuel oil (on-site consumption)

Tank Number:	5
Tank Id:	161691
Material Code:	0008
Common Name of Substance:	Diesel

Equipment Records:

I05 - Overfill - Vent Whistle
I04 - Overfill - Product Level Gauge (A/G)
C01 - Pipe Location - Aboveground
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
H00 - Tank Leak Detection - None
G01 - Tank Secondary Containment - Diking (Aboveground)
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	06/01/1986
Capacity Gallons:	3000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	10/01/1995
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	diesel

H36 **USEPA - REGION II - VIBRATECH SITE** **RCRA-LQG** **1000353834**
North **537 E DELAVAN AVE** **NY MANIFEST** **NYD083530428**
1/8-1/4 **BUFFALO, NY 14211** **NY VAPOR REOPENED**
0.187 mi.
989 ft. **Site 5 of 8 in cluster H**

Relative:
Higher

Actual:
652 ft.

RCRA Listings:

Date Form Received by Agency:	20100216
Handler Name:	Usepa - Region Ii - Vibratech Site
Handler Address:	E DELAVAN AVE
Handler City,State,Zip:	BUFFALO, NY 14211

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

EPA ID:	NYD083530428
Contact Name:	KEVIN MATHEIS
Contact Address:	Not reported
Contact City,State,Zip:	Not reported
Contact Telephone:	716-551-5944
Contact Fax:	Not reported
Contact Email:	MATHEIS.KEVIN@EPA.GOV
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Large Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	2009
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	WOODBRIDGE AVENUE BLDG 209
Mailing City,State,Zip:	EDISON, NJ 08837
Owner Name:	Mario Pugliesi
Owner Type:	Private
Operator Name:	Mario Pugliesi - Last Owner Of Record At
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210917
Recognized Trader-Importer:	No

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2009

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D006
Waste Description:	Cadmium
Waste Code:	D008
Waste Description:	Lead
Waste Code:	D009
Waste Description:	Mercury
Waste Code:	D018
Waste Description:	Benzene
Waste Code:	D019
Waste Description:	Carbon Tetrachloride
Waste Code:	D021
Waste Description:	Chlorobenzene
Waste Code:	D022
Waste Description:	Chloroform
Waste Code:	D023
Waste Description:	O-Cresol
Waste Code:	D024
Waste Description:	M-Cresol
Waste Code:	F001
Waste Description:	The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F005
Waste Description:	The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F006
Waste Description:	Wastewater Treatment Sludges From Electroplating Operations, Except From The Following Processes: (1) Sulfuric Acid Anodizing Of Aluminum; (2) Tin Plating On Carbon Steel; (3) Zinc Plating (Segregated Basis) On Carbon Steel; (4) Aluminum Or Zinc-Aluminum Plating On Carbon Steel; (5) Cleaning/Stripping Associated With Tin, Zinc, And Aluminum Plating On Carbon Steel; And (6) Chemical Etching And Milling Of Aluminum.
Waste Code:	F007
Waste Description:	Spent Cyanide Plating Bath Solutions From Electroplating Operations.
Waste Code:	F008
Waste Description:	Plating Bath Residues From The Bottom Of Plating Baths From Electroplating Operations In Which Cyanides Are Used In The Process.
Waste Code:	F009
Waste Description:	Spent Stripping And Cleaning Bath Solutions From Electroplating Operations In Which Cyanides Are Used In The Process.
Waste Code:	F017
Waste Description:	Not Defined
Waste Code:	U002
Waste Description:	2-Propanone (I) (Or) Acetone (I)
Waste Code:	U080
Waste Description:	Methane, Dichloro- (Or) Methylene Chloride
Waste Code:	U159
Waste Description:	2-Butanone (I,T) (Or) Methyl Ethyl Ketone (Mek) (I,T)
Waste Code:	U160
Waste Description:	2-Butanone, Peroxide (R,T) (Or) Methyl Ethyl Ketone Peroxide (R,T)
Waste Code:	U161

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Waste Description: 4-Methyl-2-Pentanone (I) (Or) Methyl Isobutyl Ketone (I) (Or) Pentanol, 4-Methyl-

Waste Code: U162
Waste Description: 2-Propenoic Acid, 2-Methyl-, Methyl Ester (I,T) (Or) Methyl Methacrylate (I,T)

Waste Code: U210
Waste Description: Ethene, Tetrachloro- (Or) Tetrachloroethylene

Waste Code: U226
Waste Description: Ethane, 1,1,1-Trichloro- (Or) Methyl Chloroform

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: IDEX CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: IDEX CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MARIO PUGLIESI
Legal Status: Private
Date Became Current: 19791231
Date Ended Current: Not reported
Owner/Operator Address: 537 DELAVAN AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: IDEX CORP
Legal Status: Private
Date Became Current: Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MARIO PUGLIESI - LAST OWNER OF RECORD AT
Legal Status: Private
Date Became Current: 19900101
Date Ended Current: Not reported
Owner/Operator Address: 537 DELAVAN AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20100216
Handler Name: USEPA - REGION II - VIBRATECH SITE
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: Not reported
Recognized Trader Exporter: Not reported
Spent Lead Acid Battery Importer: Not reported
Spent Lead Acid Battery Exporter: Not reported
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19990708
Handler Name: VIBRATECH INC A UNIT OF IDEX
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: VIBRATECH INC A UNIT OF IDEX
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: VIBRATECH INC A UNIT OF IDEX
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19800818
Handler Name: VIBRATECH INC A UNIT OF IDEX
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 92411
NAICS Description: ADMINISTRATION OF AIR AND WATER RESOURCE AND SOLID WASTE MANAGEMENT PROGRAMS

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19870717
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20010530
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRWK
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930323
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Manifest Facility Information:

EPA ID:	NYD083530428
Country:	USA
Name:	USEPA - VIBRATECH INC.
Address:	537 E DELEVAN AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211-1007
Zip 4:	Not reported
Location Address 1:	537 EAST DELAVAN AVENUE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	USEPA - VIBRATECH INC.
Mailing Contact:	J A JOHNS
Mailing Address 1:	2890 WOODBRIDGE AVE
Mailing Address 2:	BLDG 209
Mailing City,State,Zip:	EDISON, NJ 08837
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168958000

Manifest Data:

Document ID:	MIA2659503
Manifest Status:	Not reported
Trans1 State ID:	PD2911NY
Year:	1992
Trans2 State ID:	10211PNY
Generator Ship Date:	10/26/1992
Trans1 Recv Date:	10/26/1992
Trans2 Recv Date:	10/28/1992
TSD Site Recv Date:	10/29/1992
Part A Recv Date:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	NYD980769947
TSDF ID 1:	MID980615298
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00110
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	VTA0060216
Manifest Status:	Not reported
Trans1 State ID:	PP8402NY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	10/24/1995
Trans1 Recv Date:	10/24/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/26/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00006
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	MERCURY
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00008
Units:	Pounds
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Document ID:	VTA0060217
Manifest Status:	Not reported
Trans1 State ID:	PP8404NY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	10/24/1995
Trans1 Recv Date:	10/24/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/26/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00001
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 7:	THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LIST IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00007
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 12:	CORROSIVE WASTE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00003
Units:	Pounds
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 17:	CORROSIVE WASTE
Waste Code 18:	Not reported
Waste Code 19:	Not reported
Waste Code 20:	Not reported
Waste Code 21:	Not reported
Quantity:	00001
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Document ID:	VTA0060219
Manifest Status:	Not reported
Trans1 State ID:	PP8404NY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	11/27/1995
Trans1 Recv Date:	11/27/1995

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/28/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00030
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00030
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 12:	CORROSIVE WASTE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00030
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 17:	CORROSIVE WASTE
Waste Code 18:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Waste Code 19:	Not reported
Waste Code 20:	Not reported
Waste Code 21:	Not reported
Quantity:	00065
Units:	Gallons (liquids only)
Number of Containers:	003
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Document ID:	VTA0060220
Manifest Status:	Not reported
Trans1 State ID:	PP8404NY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	11/27/1995
Trans1 Recv Date:	11/27/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/28/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00005
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00005
Units:	Gallons (liquids only)

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Document ID:	VTA0060232
Manifest Status:	Not reported
Trans1 State ID:	PP8404NY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	11/27/1995
Trans1 Recv Date:	11/27/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/28/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00005
Units:	Pounds
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00005
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 12:	CORROSIVE WASTE

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00002
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 17:	CHROMIUM
Waste Code 18:	Not reported
Waste Code 19:	Not reported
Waste Code 20:	Not reported
Waste Code 21:	Not reported
Quantity:	00150
Units:	Pounds
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Document ID:	VTA0061087
Manifest Status:	Not reported
Trans1 State ID:	PP8404NY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	10/24/1995
Trans1 Recv Date:	10/24/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/26/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	DISCARDED UNUSED FORMULATIONS CONTAINING TRI-, TETRA-, OR PENTACHLOROPHENOL OR DISCARDED UNUSED FORMULATIONS CONTAINING COMPOUNDS DERIVED FROM THESE CHLOROPHENOLS. (THIS LISTING DOES NOT INCLUDE FORMULATIONS CONTAINING HEXACHLOROPHENE SYNTHESIZED FROM PREPURIFIED 2,4,5-TRICHLOROPHENOL AS THE SOLE COMPONENT.)
Waste Code 2:	Not reported
Waste Code 3:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00130
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	NYA7952103
Manifest Status:	C - Completed copy
Trans1 State ID:	000000000
Year:	1989
Trans2 State ID:	000000000
Generator Ship Date:	890601
Trans1 Recv Date:	890601
Trans2 Recv Date:	890601
TSD Site Recv Date:	890601
Part A Recv Date:	890605
Part B Recv Date:	890606
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD982181513
Trans2 EPA ID:	NYD982181513
TSDF ID 1:	NYD043815703
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00005
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	100
Document ID:	VTA0050471
Manifest Status:	Not reported
Trans1 State ID:	PP8404NY
Year:	1994
Trans2 State ID:	Not reported
Generator Ship Date:	08/29/1994

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Trans1 Recv Date:	08/29/1994
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/30/1994
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	Not reported
TSDF ID 1:	VTD982766537
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	MERCURY
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00001
Units:	Pounds
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00001
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 12:	CORROSIVE WASTE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00006
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Document ID:	NYB4892499
Manifest Status:	Not reported
Trans1 State ID:	86044DNY
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	10/02/1995
Trans1 Recv Date:	10/02/1995
Trans2 Recv Date:	10/04/1995
TSD Site Recv Date:	10/06/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	OH0000000539
TSDF ID 1:	OHD083377010
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00150
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00020
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Document ID:	NYB4892301
Manifest Status:	Not reported
Trans1 State ID:	86044DNY
Year:	1995
Trans2 State ID:	Not reported

USEPA - REGION II - VIBRATECH SITE (Continued) **1000353834**

Generator Ship Date:	10/02/1995
Trans1 Recv Date:	10/02/1995
Trans2 Recv Date:	10/04/1995
TSD Site Recv Date:	10/06/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD083530428
Trans1 EPA ID:	NYD986903904
Trans2 EPA ID:	OH0000000539
TSDF ID 1:	OHD083377010
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00080
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00015
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00

Click this hyperlink while viewing on your computer to access
57 additional NY MANIFEST: record(s) in the EDR Site Report.

VAPOR REOPENED:

Name:	VIBRATECH INC.
Address:	537 EAST DELAVAN
City,State,Zip:	BUFFALO, NY
Site Code:	915165
Facility Status:	Complete

I37 **WISE METAL WORKS INC** **PA MANIFEST** **S111771736**
ENE **201 DUTTON ST** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.193 mi.
1018 ft. **Site 1 of 3 in cluster I**

Relative: **Higher**

Actual: **655 ft.**

Manifest Details:

Year:	2010
Manifest Number:	001055597JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	2
Waste Number:	D001
Container Number:	2
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	100
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2010
Manifest Number:	001055597JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	400
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported

WISE METAL WORKS INC (Continued) **S111771736**

Date TSP Sig:	Not reported
Year:	2010
Manifest Number:	001055597JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	3
Waste Number:	D002
Container Number:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	55
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported
Year:	2010
Manifest Number:	001055597JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	4
Waste Number:	D001
Container Number:	1
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	50
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported
Year:	2010

WISE METAL WORKS INC (Continued) **S111771736**

Manifest Number:	001055598JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D002
Container Number:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	95
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2010
Manifest Number:	001055597JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	2
Waste Number:	D035
Container Number:	2
Container Type:	Metal drums, barrels, kegs
Waste Quantity:	100
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2010
Manifest Number:	001055598JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764

WISE METAL WORKS INC (Continued) **S111771736**

Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	2
Waste Number:	NONE
Container Number:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	100
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2010
Manifest Number:	001055599JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D001
Container Number:	3
Container Type:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	450
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2010
Manifest Number:	001055597JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported

WISE METAL WORKS INC (Continued) **S111771736**

Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	3
Waste Number:	D007
Container Number:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	55
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2010
Manifest Number:	001055599JJK
Manifest Type:	TSD Copy
Generator EPA Id:	NYR000178764
Generator Date:	10/27/2010
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	NULL
TSD EPA Id:	PAD067098822
TSD Date:	Not reported
TSD Facility Name:	CYCLE CHEM INC
TSD Facility Address:	550 INDUSTRIAL DRIVE
TSD Facility City:	LEWISBERRY
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D035
Container Number:	3
Container Type:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	450
Unit:	Gallons (liquids only)
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Click this hyperlink while viewing on your computer to access additional PA_MANIFEST: detail in the EDR Site Report.

I38 **WEST METAL WORKS INC** **RCRA NonGen / NLR** **1014399787**
ENE **201 DUTTON AVE** **NY MANIFEST** **NYR000178764**
1/8-1/4 **BUFFALO, NY 14211**
0.193 mi.
1018 ft. **Site 2 of 3 in cluster I**

Relative:
Higher

Actual:
655 ft.

RCRA Listings:

Date Form Received by Agency:	20120117
Handler Name:	West Metal Works Inc
Handler Address:	DUTTON AVE
Handler City,State,Zip:	BUFFALO, NY 14211-1011
EPA ID:	NYR000178764
Contact Name:	PAUL R ALLEN
Contact Address:	HOWARD ST
Contact City,State,Zip:	SILVER CREEK, NY 14136
Contact Telephone:	716-934-2611
Contact Fax:	716-934-2985
Contact Email:	ALLENP@SHOWES.COM
Contact Title:	MANUFACTURING MANAGER - S HOWES INC
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	PO BOX 750
Mailing City,State,Zip:	BUFFALO, NY 14207
Owner Name:	Patricia Mertz
Owner Type:	Private
Operator Name:	Patricia Mertz
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

WEST METAL WORKS INC (Continued) **1014399787**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D007
Waste Description:	Chromium
Waste Code:	D018
Waste Description:	Benzene
Waste Code:	D035
Waste Description:	Methyl Ethyl Ketone

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: PATRICIA MERTZ	
Legal Status:	Private
Date Became Current:	19950331
Date Ended Current:	Not reported
Owner/Operator Address:	200 DELAWARE AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14202
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: PATRICIA MERTZ	
Legal Status:	Private
Date Became Current:	19950331
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported

WEST METAL WORKS INC (Continued) **1014399787**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: PATRICIA MERTZ
Legal Status: Private
Date Became Current: 19950331
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: PATRICIA MERTZ
Legal Status: Private
Date Became Current: 19950331
Date Ended Current: Not reported
Owner/Operator Address: 200 DELAWARE AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20120117
Handler Name: WEST METAL WORKS INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20101027
Handler Name: WEST METAL WORKS INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 332439
NAICS Description: OTHER METAL CONTAINER MANUFACTURING

WEST METAL WORKS INC (Continued) **1014399787**

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

Manifest Facility Information:

EPA ID:	NYR000178764
Country:	USA
Name:	WEST METAL WORKS INC
Address:	201 DUTTON AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211-1011
Zip 4:	Not reported
Location Address 1:	201 DUTTON AVENUE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	WEST METAL WORKS INC
Mailing Contact:	WAYNE MERTZ
Mailing Address 1:	765 HERTEL AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14207
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168744800

Manifest Data:

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	10/27/2010
Trans1 Recv Date:	10/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/05/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000178764
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055597JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N

WEST METAL WORKS INC (Continued) **1014399787**

Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	CORROSIVE WASTE
Waste Code b:	CHROMIUM
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	55
Units:	Gallons (liquids only)
Number of Containers:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	10/27/2010
Trans1 Recv Date:	10/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/05/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000178764
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055597JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	METHYL ETHYL KETONE
Waste Code c:	Not reported
Waste Code e:	Not reported

WEST METAL WORKS INC (Continued) **1014399787**

Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	100
Units:	Gallons (liquids only)
Number of Containers:	2
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	10/27/2010
Trans1 Recv Date:	10/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/05/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000178764
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055597JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	50
Units:	Pounds

WEST METAL WORKS INC (Continued) **1014399787**

Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	10/27/2010
Trans1 Recv Date:	10/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/05/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000178764
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055597JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	400
Units:	Pounds
Number of Containers:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported

WEST METAL WORKS INC (Continued) **1014399787**

Generator Ship Date:	10/27/2010
Trans1 Recv Date:	10/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/05/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000178764
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055598JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	CORROSIVE WASTE
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	95
Units:	Gallons (liquids only)
Number of Containers:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	10/27/2010
Trans1 Recv Date:	10/27/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/05/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000178764
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822

WEST METAL WORKS INC (Continued) **1014399787**

TSDF ID 2:	Not reported
Manifest Tracking Number:	001055599JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	IGNITABLE WASTE
Waste Code b:	METHYL ETHYL KETONE
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	450
Units:	Gallons (liquids only)
Number of Containers:	3
Container Type:	Fiber or plastic boxes, cartons, cases
Handling Method:	Burn
Specific Gravity:	1

J39 **BUFLOVAK LLC** **FINDS** **1016099182**
South **750 EAST FERRY STREET** **ECHO** **N/A**
1/8-1/4 **BUFFALO, NY 14211** **PFAS ECHO**
0.197 mi.
1040 ft. **Site 1 of 3 in cluster J**

Relative: **Lower**

Actual: **638 ft.**

FINDS:
Registry ID: 110000327003

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
THE EMISSION INVENTORY SYSTEM (EIS) MAINTAINS AN INVENTORY OF LARGE STATIONARY SOURCES AND VOLUNTARILY-REPORTED SMALLER SOURCES OF AIR POINT POLLUTANT EMITTERS. IT CONTAINS INFORMATION ABOUT FACILITY SITES AND THEIR PHYSICAL LOCATION, EMISSIONS UNITS, EMISSIONS PROCESSES, RELEASE POINTS, CONTROL APPROACHES, AND REGULATIONS. FACILITY INVENTORY DATA ARE KEPT SEPARATE FROM THE EMISSIONS DATA AND HAVE STABLE IDENTIFIERS TO IMPROVE CONTINUITY FROM YEAR TO YEAR AND TO HELP IDENTIFY DUPLICATE OR MISSING FACILITIES
The Air Facility System (AFS) contains compliance and permit data for stationary sources of air pollution regulated by the EPA, state, and local air pollution agencies.
ICIS-Air (AIR) AIR is the modernization of the Air Facility System (AFS) into the Integrated Compliance Information System (ICIS). AIR

BUFLOVAK LLC (Continued) **1016099182**

contains enforcement, compliance, and permit data for stationary sources of air pollution regulated by the EPA, State, and Local air pollution agencies.
The New York Department of Environmental Conservation Facility Information System (FIS) database houses all information about facilities that are regulated or of environmental interest to the state of New York.
The Toxic Release Inventory System (TRIS) is a publicly available EPA database reported annually by certain covered industry groups, as well as federal facilities. It contains information about more than 650 toxic chemicals that are being used, manufactured, treated, transported, or released into the environment, and includes information about waste management and pollution prevention activities.
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.
The National Pollutant Discharge Elimination System (NPDES) module of the Integrated Compliance Information System (ICIS). Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1016099182
Registry ID:	110000327003
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110000327003
Name:	BUFLOVAK LLC
Address:	750 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211

PFAS ECHO:

Name:	BUFLOVAK LLC
Address:	Not reported
City,State,Zip:	BUFFALO, NY
Latitude:	42.914600
Longitude:	-78.836740
Count:	1
County:	ERIE
Status:	Active
Region:	02
Industry:	Metal Machinery Mfg
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=110000327003
Facility Percent Minority:	61.378
Facility Derived Tribes:	Tuscarora Nation - 16.3 mile(s), Tonawanda Band of Seneca - 20.3 mile(s), Seneca Nation of Indians - 24.9 mile(s)
Facility Population:	6965.98
EPA Programs:	CAA; CWA; RCRA
Federal Facility:	No

BUFLOVAK LLC (Continued) **1016099182**

Federal Agency:	-
Facility FIPS Code:	36029
Facility Indian Country Flag:	N
Facility Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Facility Derived HUC:	04120103
Facility Derived WBD:	041201040601
Facility Derived CD113:	26
Facility Derived CB2010:	360290034005016
Facility Major Flag:	-
Facility Active Flag:	Y
Facility Inspection Count:	0
Facility Date Last Inspection:	2/17/2017
Facility Days Last Inspection:	2,409
Facility Informal Count:	0
Facility Date Last Informal Action:	10/22/1999
Facility Formal Action Count:	0
Facility Date Last Formal Action:	9/19/2016
Facility Total Penalties:	0
Facility Penalty Count:	-
Facility Date Last Penalty:	9/19/2016
Facility Last Penalty AMT:	1,000
Facility QTRS With NC:	0
Facility Programs With SNC:	0
Facility Compliance Status:	No Violation Identified
Facility SNC Flag:	N
AIR Flag:	Y
NPDES Flag:	Y
SDWIS Flag:	N
RCRA Flag:	Y
TRI Flag:	N
GHG Flag:	N
AIR IDS:	NY0000009140200058
CAA Permit Types:	Minor Emissions
CAA NAICS:	333298
CAA SICS:	3599
NPDES IDS:	NYR00A522
CWA Permit Types:	Minor
CWA NAICS:	-
CWA SICS:	3599
RCRA IDS:	NYD096299292
RCRA Permit Types:	VSQG
RCRA NAICS:	541380
SDWA IDS:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA SNC Flag:	N
TRI IDS:	14211BLWKN750EA
TRI Releases Transfers:	-
TRI On Site Releases:	-
TRI Off Site Transfers:	-
TRI Reporter:	-
Facility IMP Water Flag:	Y
EJSCREEN Flag US:	Y
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-78.83674,%22y%22:42.9146,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1

J40
South
1/8-1/4
0.197 mi.
1040 ft.

Relative:
Lower

Actual:
638 ft.

HEBELER PROCESS SOLUTIONS LLC
750 E FERRY ST
BUFFALO, NY 14211

Site 2 of 3 in cluster J

RCRA-VSQG **1000434821**
NY LTANKS **NYD096299292**
NY BROWNFIELDS
US AIRS
NY AIRS
NY MANIFEST
NY SPDES

RCRA Listings:

Date Form Received by Agency:	20170515
Handler Name:	Hebeler Process Solutions Llc
Handler Address:	E FERRY ST
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYD096299292
Contact Name:	MICHAEL N BALL
Contact Address:	MILITARY RD
Contact City,State,Zip:	TONAWANDA, NY 14150
Contact Telephone:	716-873-9300 x4772
Contact Fax:	716-362-2772
Contact Email:	BALM@HEBELER.COM
Contact Title:	EHS MANAGER
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	MILITARY RD
Mailing City,State,Zip:	TONAWANDA, NY 14150
Owner Name:	Buffalo Technologies Corp
Owner Type:	Private
Operator Name:	Buffalo Technologies Corp
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20170516
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined
Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D003
Waste Description:	Reactive Waste
Waste Code:	F001
Waste Description:	The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F002
Waste Description:	The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F004
Waste Description: The Following Spent Nonhalogenated Solvents: Cresols, Cresylic Acid, And Nitrobenzene; And The Still Bottoms From The Recovery Of These Solvents; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F006
Waste Description: Wastewater Treatment Sludges From Electroplating Operations, Except From The Following Processes: (1) Sulfuric Acid Anodizing Of Aluminum; (2) Tin Plating On Carbon Steel; (3) Zinc Plating (Segregated Basis) On Carbon Steel; (4) Aluminum Or Zinc-Aluminum Plating On Carbon Steel; (5) Cleaning/Stripping Associated With Tin, Zinc, And Aluminum Plating On Carbon Steel; And (6) Chemical Etching And Milling Of Aluminum.

Waste Code: F007
Waste Description: Spent Cyanide Plating Bath Solutions From Electroplating Operations.

Waste Code: F008
Waste Description: Plating Bath Residues From The Bottom Of Plating Baths From Electroplating Operations In Which Cyanides Are Used In The Process.

Waste Code: F009
Waste Description: Spent Stripping And Cleaning Bath Solutions From Electroplating Operations In Which Cyanides Are Used In The Process.

Waste Code: F010
Waste Description: Quenching Bath Residues From Oil Baths From Metal Heat Treating Operations In Which Cyanides Are Used In The Process.

Waste Code: F014
Waste Description: Not Defined

Waste Code: K011
Waste Description: Bottom Stream From The Wastewater Stripper In The Production Of Acrylonitrile.

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Waste Code: K014
Waste Description: Bottoms From The Acetonitrile Purification Column In The Production Of Acrylonitrile.

Waste Code: K016
Waste Description: Heavy Ends Or Distillation Residues From The Production Of Carbon Tetrachloride.

Waste Code: K018
Waste Description: Heavy Ends From The Fractionation Column In Ethyl Chloride Production.

Waste Code: K019
Waste Description: Heavy Ends From The Distillation Of Ethylene Dichloride In Ethylene Dichloride Production.

Waste Code: K020
Waste Description: Heavy Ends From The Distillation Of Vinyl Chloride In Vinyl Chloride Monomer Production.

Waste Code: K023
Waste Description: Distillation Light Ends From The Production Of Phthalic Anhydride From Naphthalene.

Waste Code: K024
Waste Description: Distillation Bottoms From The Production Of Phthalic Anhydride From Naphthalene.

Waste Code: K036
Waste Description: Still Bottoms From Toluene Reclamation Distillation In The Production Of Disulfoton.

Waste Code: K037
Waste Description: Wastewater Treatment Sludges From The Production Of Disulfoton.

Waste Code: K038
Waste Description: Wastewater From The Washing And Stripping Of Phorate Production.

Waste Code: K045
Waste Description: Spent Carbon From The Treatment Of Wastewater Containing Explosives.

Waste Code: K046
Waste Description: Wastewater Treatment Sludges From The Manufacturing, Formulation, And Loading Of Lead-Based Initiating Compounds.

Waste Code: K047
Waste Description: Pink/Red Water From Tnt Operations.

Waste Code: K062
Waste Description: Spent Pickle Liquor From Steel Finishing Operations Of Plants That Produce Iron Or Steel.

Waste Code: P005
Waste Description: 2-Propen-1-Ol (Or) Allyl Alcohol

Waste Code: P012
Waste Description: Arsenic Oxide As2o3 (Or) Arsenic Trioxide

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Waste Code:	P022
Waste Description:	Carbon Disulfide
Waste Code:	P030
Waste Description:	Cyanides (Soluble Cyanide Salts), Not Otherwise Specified
Waste Code:	P043
Waste Description:	Diisopropylfluorophosphate (Dfp) (Or) Phosphorofluoridic Acid, Bis(1-Methylethyl) Ester
Waste Code:	P059
Waste Description:	4,7-Methano-1h-Indene, 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro- (Or) Heptachlor
Waste Code:	P074
Waste Description:	Nickel Cyanide (Or) Nickel Cyanide Ni(Cn)2
Waste Code:	P076
Waste Description:	Nitric Oxide (Or) Nitrogen Oxide No
Waste Code:	P098
Waste Description:	Potassium Cyanide (Or) Potassium Cyanide K(Cn)
Waste Code:	U001
Waste Description:	Acetaldehyde (I) (Or) Ethanal (I)
Waste Code:	U019
Waste Description:	Benzene (I,T)
Waste Code:	U061
Waste Description:	Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Chloro- (Or) Ddt
Waste Code:	U112
Waste Description:	Acetic Acid, Ethyl Ester (I) (Or) Ethyl Acetate (I)
Waste Code:	U122
Waste Description:	Formaldehyde
Waste Code:	U123
Waste Description:	Formic Acid (C,T)
Waste Code:	U134
Waste Description:	Hydrofluoric Acid (C,T) (Or) Hydrogen Fluoride (C,T)
Waste Code:	U140
Waste Description:	1-Propanol, 2-Methyl- (I,T) (Or) Isobutyl Alcohol (I,T)
Waste Code:	U147
Waste Description:	2,5-Furandione (Or) Maleic Anhydride
Waste Code:	U154
Waste Description:	Methanol (I) (Or) Methyl Alcohol (I)
Waste Code:	U159
Waste Description:	2-Butanone (I,T) (Or) Methyl Ethyl Ketone (Mek) (I,T)
Waste Code:	U161

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Waste Description: 4-Methyl-2-Pentanone (I) (Or) Methyl Isobutyl Ketone (I) (Or) Pentanol, 4-Methyl-

Waste Code: U201
Waste Description: 1,3-Benzenediol (Or) Resorcinol

Waste Code: U211
Waste Description: Carbon Tetrachloride (Or) Methane, Tetrachloro-

Waste Code: U220
Waste Description: Benzene, Methyl- (Or) Toluene

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: BUFFALO TECHNOLOGIES CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 1041
Owner/Operator City,State,Zip: BUFFALO, NY 14240
Owner/Operator Telephone: 716-895-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: BUFFALO TECHNOLOGIES CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 1041
Owner/Operator City,State,Zip: BUFFALO, NY 14240
Owner/Operator Telephone: 716-895-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: BUFFALO TECHNOLOGIES CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 1041
Owner/Operator City,State,Zip: BUFFALO, NY 14240
Owner/Operator Telephone: 716-895-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: BUFFALO TECHNOLOGIES CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Owner/Operator Address: PO BOX 1041
Owner/Operator City,State,Zip: BUFFALO, NY 14240
Owner/Operator Telephone: 716-895-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: BUFFALO TECHNOLOGIES CORP
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 1041
Owner/Operator City,State,Zip: BUFFALO, NY 14240
Owner/Operator Telephone: 716-895-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: BUFFALO TECHNOLOGIES CORP
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 1041
Owner/Operator City,State,Zip: BUFFALO, NY 14240
Owner/Operator Telephone: 716-895-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: HEBELER PROCESS SOLUTIONS LLC
Legal Status: Private
Date Became Current: 20160929
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: 750 EAST FERRY LLC
Legal Status: Private
Date Became Current: 20081212
Date Ended Current: Not reported
Owner/Operator Address: 5940 ELM ST
Owner/Operator City,State,Zip: CLARENCE CENTER, NY 14032
Owner/Operator Telephone: 716-851-2100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19990714

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Handler Name: BUFFALO TECHNOLOGIES CORP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20051212
Handler Name: BUFLOVAK LLC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: BUFLOVAK LLC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: BUFLOVAK LLC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19991109
Handler Name: BUFFALO TECHNOLOGIES CORP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20170515
Handler Name: HEBELER PROCESS SOLUTIONS LLC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 541380
NAICS Description: TESTING LABORATORIES AND SERVICES

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19991022
Actual Return to Compliance Date: 19991022
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19991126
Enforcement Identifier: 000
Date of Enforcement Action: 19991022
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: NY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYRFR
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890719
Actual Return to Compliance Date: 19900110
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19890922
Enforcement Identifier: 002
Date of Enforcement Action: 19890822
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYDEC
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19851024
Actual Return to Compliance Date: 19860411
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860215
Enforcement Identifier: 001
Date of Enforcement Action: 19860115
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYDEC
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19991022
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	19991022
Scheduled Compliance Date:	19991126
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20011129
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRG9
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890719
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900110
Scheduled Compliance Date:	19890922
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20170217
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19870630
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19851024
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19860411
Scheduled Compliance Date:	19860215
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20090706
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20051026
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19991022
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

LTANKS:

Name:	BLAW KNOX
Address:	750 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8604194 / 1988-08-04
Facility ID:	8604194
Site ID:	190983
Spill Date:	1986-09-29
Spill Cause:	Tank Test Failure
Spill Source:	Commercial/Industrial
Spill Class:	Not reported
Cleanup Ceased:	1988-08-04
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1986-09-29
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Tank Tester
Last Inspection:	1988-05-03
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1986-10-02
Spill Record Last Update:	1988-08-17

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Spiller Name:	Not reported
Spiller Company:	BLAW KNOX
Spiller Address:	750 EAST FERRY STREET
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	159297
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP / / : 6/9/87 TELECON W/BETZ, OFFICE MEETING SCHEDULED FOR 6/19/87;6/19/87 OFFICE MEETING, DISCUSSED LACK OF PROD RECOVERY & FURTHER CLEANUP NEEDED. / / : TANK DRAINED BELOW SUSPECTED LEAK 9/29/86. / / : TELECON 04/27/87, RECOVERY IN OPERATION, NO PRODUCT RECOVERED. / / : 5/26/87 TELECON W/HITCHCOCK, HE WILL CHECK W/NARUN REGARDING RECOVERY & DTW;6/8/87 TELECONS W/HITCHCOCK & BETZ, TO CHECK RECOVERY STATUS. / / : TANK DRAINED BELOW SUSPECTED LEAK 9/29/86; TELECONS 10/07/86 AND 10/08/86, CLEANUP UNDERWAY. / / : SITE INSP. 2/27/87, SHEEN PRESENT IN RECOVERY WELL, NO PRODUCT RECOVERED, DTW >12'SYSTEM TURNED OFF FOR 2 DAYS;TELECON 3/2/87,DTW = 10.5'. / / : 6/19/87 MNP & RNL INSP, ONLY FILM NOTED ON BAILER, WELL TO BE MON. MONTHLY FOR RECURRANCE OF PROD. IN WELL. / / : 8/20/87 MNP INSP. SLIGHT SHEEN & FILM NOTED ON BAILER, OIL SPILLAGE IN DRUM STORAGE AREA, F. GOYE AGREED TO CLEANUP AREA;NEEDS FOLLOWUP INSP. / / : MNP SITE INSP. 10/23/87, RECOVERY WELL CLEAN, OIL IN DRUM AREA. / / : 10/29/87 TO 11/12/87 TELECONS, RW O.K. ONLY CLEANUP IN DRUM STORAGE AREA REMAINS;11/12/87 MNP INSP. RW O.K., CLEANUP NEEDED IN DRUM AREA. / / : TELECONS W/HITCHCOCK FROM E. TANK 1/21/87 & 2/10/87, RECOVERY SYSTEM SETUP & OPERATIONAL, NO PRODUCT RECOVERED;NEEDS INSP. / / : 11/17/87 LETTER TO BLAW KNOX;INSP. NEEDED. / / : SITE INSP. 10/8,9/86, TANK CLEAN OUT UNDERWAY, CONTAM. SOIL & TANK SLUDGE TO BE SAMPLED & DISPOSED, PRODUCT & SHEEN IN EXCAVATION. / / : MEETING W/BLAW KNOX 11/24/86, DISCUSSED RECOVERY, DISPOSAL OF OIL & SLUDGE; BLAW KNOX TO BE CONTACTED; LETTER RECEIVED 12/04/87. / / : TELECON 10/14/86 W/FASO, WILL USE ADSOBANTS IN EXCAVATION;SITE INSP. 10/17/86, SHEEN PRESENT, TANK CLEAN;TELECON 10/27/86, TO SETUP RECOVERY. / / : MEETING W/BLAW KNOX 11/24/86, DISCUSSED RECOVERY, DISPOSAL OF OIL & SLUDGE (SEE FILE);BLAW KNOX TO BE CONTACTED. / / : LETTER 10/31/86, REPLY 11/14/86; TELECON 10/27/86, TO SETUP RECOVERY. / / : MEETING W/BLAW KNOX 11/24/86, DISCUSSED RECOVERY, DISPOSAL OF OIL & SLUDGE (SEE FILE). 08/11/88: 11/27/87 TO 8/4/88 CLEANUP COMPLETED, DISPOSAL OF SOIL DONE & RECEIPTS RECEIVED; SEE FILE FOR MORE INFO.
Remarks:	LEAK RATE 1.12GAL/HR;OIL SPILLAGE IN DRUM STORAGE AREA NOTED 8/20/87

All TTF:

Facility ID:	8604194
Spill Number:	8604194
Spill Tank Test:	1530252
Site ID:	190983
Tank Number:	Not reported
Tank Size:	0
Material:	0001
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	00

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Test Method 2:	Unknown
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	190983
Operable Unit ID:	901443
Operable Unit:	01
Material ID:	477017
Material Code:	0001A
Material Name:	#2 fuel oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	40.00
Units:	G
Recovered:	35.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

BROWNFIELDS:

Name:	BUFFALO FOUNDRY & MACHINE PARK OF INNOVATION
Address:	750 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211
Program:	BCP
Site Code:	646800
Acres:	14.530
HW Code:	C915392
SWIS:	1502
Town:	Buffalo (c)
Record Added Date:	12/07/2022
Record Updated Date:	06/29/2023
Update By:	AECAPRIO
Site Description:	Site Location: The 14.53-acre Buffalo Foundry & Machine Park of Innovation site is located at 750 East Ferry Street in the City of Buffalo, Erie County. It is near the intersection of Fillmore Avenue and East Ferry Street and approximately 3 miles south of Erie County Medical Center (ECMC). Site Features: The main site features include several abandoned industrial buildings of varying sizes estimated to be built between 1902 and 1920. Asphalt surfaces exist to the east of the buildings and there are approximately three acres of grassy and/or unpaved areas to the west and east of the buildings. A portion of Scajaquada Creek runs below ground from east to west beneath the main buildings in a concrete tunnel known as the Scajaquada Creek Drain. Current Zoning and Land Use: The municipal zoning designation for the site is D-IH (Heavy Industrial). The surrounding parcels are used for a combination of heavy and light industrial, commercial, residential, and utility/rail corridors. The nearest residential areas are 80 ft to the south along Winchester Avenue and immediately across Fillmore Avenue to the west. Portions of the former manufacturing buildings are leased to third parties for the storage of various supplies/products/equipment. One of the smaller buildings is currently used as a laboratory for Buflovak. A portion of the largest building is used by Habitat for Humanity to assemble

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

	pre-engineered modular homes. Past Use of Site: The site has been used for manufacturing since before 1900. The Buffalo Foundry & Machine Co. (BF&MC) dates back to 1845, and began manufacturing a product line of steam hammers, impregnators, and vacuum dryers. Over time the company grew to specialize in the production of industrial evaporators used in the food and chemical industry. In 1945, BF&MC was sold to Blaw Knox Food and Chemical Equipment, which operated it as the Buflovak division. Over the next 50 years of continuous operation, the company went through at least seven different ownership groups until being purchased by Hebeler Group in 2016. It has been historically reported that some of the northern portion of the site was used as a city dump. It is also known from historical topographic maps that a portion of Scajaquada Creek was an open channel before the site was developed. The type and quality of material used to fill the former channel is unknown. Site Geology and Hydrogeology: The property is situated on fill material over clayey silts on Onondaga Limestone bedrock. Sand and gravel have also been observed from soil borings and are thought to be associated with the buried Scajaquada Creek. Fill consists primarily of black ash, cinders, and foundry sands, with trace slag, coal, brick, and iron filings. Groundwater was encountered in site borings and is considered to be influenced by the Scajaquada Creek Drain, which was constructed by the City of Buffalo and consists of brick and concrete. Groundwater flow is directed from east to west by Scajaquada Creek Drain and the estimated dimensions are 33-feet in width by 15-feet in height. The drain is set in bedrock at approximately 11-feet below ground surface. Groundwater flow outside of the Scajaquada Creek Drain influence is expected to be to the west.
	Not reported
Env Problem:	Based on the information included in the BCP application, the primary contaminants of concern are polycyclic aromatic hydrocarbons (PAHs) in soil. A full remedial investigation is needed to characterize the nature and extent of contamination.
Health Problem:	Information submitted with the BCP application regarding the conditions at the site are currently under review and will be revised as additional information becomes available.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2023-04-20 15:21:00
Record Upd:	2023-04-20 15:44:00
Updated By:	MJCRUDEN
Own Op:	6
Sub Type:	P03
Owner Name:	Peter Linder
Owner Company:	BFMC 1901, LLC
Owner Address:	65 Deer Run
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14221
Owner Country:	United States of America
Own Op:	Document Repository

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Sub Type:	NNN
Owner Name:	April Tompkins
Owner Company:	Buffalo & Erie County Public Library
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	E
Owner Name:	Peter Linder
Owner Company:	BFMC 1901, LLC
Owner Address:	750 East Ferry Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14211
Owner Country:	United States of America
HW Code:	Not reported
Waste Type:	Not reported
Waste Quantity:	Not reported
Waste Code:	Not reported
Crossref ID:	Not reported
Cross Ref Type Code:	Not reported
Cross Ref Type:	Not reported
Record Added Date:	Not reported
Record Updated:	Not reported
Updated By:	Not reported

US AIRS MINOR:

Envid:	1000434821
Region Code:	02
Programmatic ID:	AIR NY0000009140200058
Facility Registry ID:	110000327003
D and B Number:	Not reported
Primary SIC Code:	3599
NAICS Code:	333298
Default Air Classification Code:	MIN
Facility Type of Ownership Code:	POF
Air CMS Category Code:	Not reported
HPV Status:	Not reported

US AIRS MINOR:

Region Code:	02
Programmatic ID:	AIR NY0000009140200058
Facility Registry ID:	110000327003
Air Operating Status Code:	OPR
Default Air Classification Code:	MIN
Air Program:	State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date:	1983-05-19 00:00:00
Activity Status Date:	Not reported
Activity Group:	Compliance Monitoring
Activity Type:	Inspection/Evaluation
Activity Status:	Not reported

Region Code:	02
Programmatic ID:	AIR NY0000009140200058
Facility Registry ID:	110000327003
Air Operating Status Code:	OPR
Default Air Classification Code:	MIN

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Air Program:	State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date:	1984-04-10 00:00:00
Activity Status Date:	Not reported
Activity Group:	Compliance Monitoring
Activity Type:	Inspection/Evaluation
Activity Status:	Not reported
Region Code:	02
Programmatic ID:	AIR NY0000009140200058
Facility Registry ID:	110000327003
Air Operating Status Code:	OPR
Default Air Classification Code:	MIN
Air Program:	State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date:	1986-12-22 00:00:00
Activity Status Date:	Not reported
Activity Group:	Compliance Monitoring
Activity Type:	Inspection/Evaluation
Activity Status:	Not reported
Region Code:	02
Programmatic ID:	AIR NY0000009140200058
Facility Registry ID:	110000327003
Air Operating Status Code:	OPR
Default Air Classification Code:	MIN
Air Program:	State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date:	1989-10-17 00:00:00
Activity Status Date:	Not reported
Activity Group:	Compliance Monitoring
Activity Type:	Inspection/Evaluation
Activity Status:	Not reported
Region Code:	02
Programmatic ID:	AIR NY0000009140200058
Facility Registry ID:	110000327003
Air Operating Status Code:	OPR
Default Air Classification Code:	MIN
Air Program:	State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date:	1998-09-02 00:00:00
Activity Status Date:	Not reported
Activity Group:	Compliance Monitoring
Activity Type:	Inspection/Evaluation
Activity Status:	Not reported

AIRS:

Name:	BUFLOVAK LLC
Address:	750 E FERRY ST
City,State,Zip:	BUFFALO, NY 14211
DECID:	9140200058
Process ID:	Not reported
Latitude:	Not reported
Longitude:	Not reported
FIPS Code:	Not reported
Auth Type Code:	AFR
Permit Status:	Expired
Auth Status Code:	7

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Emissions:	Not reported
Issue date:	01/12/1999
Expired Date:	09/30/2016
Emission Unit date:	Not reported
Contamination:	Not reported
EPA Control Code:	Not reported
Control Eff:	Not reported
Unit:	Not reported

Manifest Facility Information:

EPA ID:	NYD096299292
Country:	USA
Name:	BUFLOVAK LLC
Address:	750 E FERRY ST
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	750 E FERRY ST
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	BUFLOVAK LLC
Mailing Contact:	CARL E. WATKINS
Mailing Address 1:	750 E FERRY ST
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168952100

Manifest Data:

Document ID:	NYC1054427
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	07/09/1991
Trans1 Recv Date:	07/09/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/09/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00399
Units:	Pounds
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC7140148
Manifest Status:	Not reported
Trans1 State ID:	NY92865AT
Year:	2003
Trans2 State ID:	CAFT97544
Generator Ship Date:	05/09/2003
Trans1 Recv Date:	05/09/2003
Trans2 Recv Date:	05/12/2003
TSD Site Recv Date:	05/15/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	TXR000050930
Trans2 EPA ID:	MOR000505347
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

MIXTURES.

Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00800
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	NYC7140183
Manifest Status:	Not reported
Trans1 State ID:	NY92865AT
Year:	2003
Trans2 State ID:	862TZLNJ
Generator Ship Date:	05/22/2003
Trans1 Recv Date:	05/22/2003
Trans2 Recv Date:	05/23/2003
TSD Site Recv Date:	05/27/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	TXR000050930
Trans2 EPA ID:	NJD071629976
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	02700

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Units:	Pounds
Number of Containers:	009
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	NYC5598483
Manifest Status:	Not reported
Trans1 State ID:	NYRW9920
Year:	1999
Trans2 State ID:	Not reported
Generator Ship Date:	04/07/1999
Trans1 Recv Date:	04/07/1999
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	04/07/1999
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00052
Units:	Gallons (liquids only)
Number of Containers:	004
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Document ID:	NYC0685585
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	01/14/1991
Trans1 Recv Date:	01/14/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	01/14/1991
Part A Recv Date:	Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	TETRACHLOROETHYLENE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00389
Units:	Pounds
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC3309996
Manifest Status:	Not reported
Trans1 State ID:	NYGR1992
Year:	1994
Trans2 State ID:	Not reported
Generator Ship Date:	10/28/1994
Trans1 Recv Date:	10/28/1994
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/28/1994
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00077
Units:	Gallons (liquids only)
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC6283855
Manifest Status:	Not reported
Trans1 State ID:	NYRW9920
Year:	2000
Trans2 State ID:	Not reported
Generator Ship Date:	10/17/2000
Trans1 Recv Date:	10/17/2000
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/17/2000
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	SCR000075150
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00058
Units:	Gallons (liquids only)
Number of Containers:	003
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4404295

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Manifest Status:	Not reported
Trans1 State ID:	NYGR1992
Year:	1996
Trans2 State ID:	Not reported
Generator Ship Date:	12/16/1996
Trans1 Recv Date:	12/16/1996
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/16/1996
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00052
Units:	Gallons (liquids only)
Number of Containers:	004
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Waste Code 7:	TETRACHLOROETHYLENE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00015
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC6504456
Manifest Status:	Not reported
Trans1 State ID:	NY92865AT
Year:	2001
Trans2 State ID:	Not reported
Generator Ship Date:	09/20/2001

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Trans1 Recv Date:	09/20/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/20/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	SCR000075150
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00040
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Document ID:	NYC1399094
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	12/27/1991
Trans1 Recv Date:	12/27/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/27/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	ILD051060408
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00389
Units:	Pounds
Number of Containers:	005
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC6564025
Manifest Status:	Not reported
Trans1 State ID:	92865AT
Year:	2001
Trans2 State ID:	Not reported
Generator Ship Date:	07/24/2001
Trans1 Recv Date:	07/24/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/24/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD096299292
Trans1 EPA ID:	SCR000075150
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	TETRACHLOROETHYLENE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00015
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Handling Method:	Recycle
Specific Gravity:	01.00
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00040
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Click this hyperlink while viewing on your computer to access
140 additional NY MANIFEST: record(s) in the EDR Site Report.

SPDES:

Name:	BUFLOVAK LLC
Address:	750 EAST FERRY ST
City,State,Zip:	BUFFALO, NY
Permit Number:	NYR00A522
State-Region:	9
Expiration Date:	Not reported
Current Major Minor Status:	Not reported
Primary Facility SIC Code:	Not reported
State Water Body Name:	Not reported
Limit Set Status Flag:	Not reported
Total Actual Average Flow(MGD):	Not reported
Total App Design Flow(MGD):	Not reported
UDF1:	Not reported
Lat/Long:	Not reported
DMR Cognizant Official:	Not reported
UDF2:	Not reported
UDF3:	Not reported
FIPS County Code:	Not reported
Non-Gov Permit Affiliation Type Desc:	Not reported
Non-Gov Permit Org Formal Name:	Not reported
Non-Gov Permit Street Address:	Not reported
Non-Gov Permit Supplemental Location:	Not reported
Non-Gov Permit City:	Not reported
Non-Gov Permit State Code:	Not reported
Non-Gov Permit Zip Code:	Not reported
Non-Gov Facility Affiliation Type Desc:	Not reported
Non-Gov Facility Org Formal Name:	Not reported
Non-Gov Facility Street Address:	Not reported
Non-Gov Facility Supplemental Location:	Not reported
Non-Gov Facility City:	Not reported
Non-Gov Facility State Code:	Not reported
Non-Gov Facility Zip Code:	Not reported
State Water Body:	Not reported
Region Permit Processed:	Not reported
Dow Discharge Class Code:	Not reported
SPDES Class Description:	Not reported

HEBELER PROCESS SOLUTIONS LLC (Continued) **1000434821**

Affiliation Type Description:	Not reported
Name:	Not reported
Contacts Title:	Not reported
Contacts Email:	Not reported
NOI Submission Date:	Not reported

J41 **BLAW-KNOX F & C EQUIP. CO.** **NY AST** **U004046166**
South **750 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.197 mi.
1040 ft. **Site 3 of 3 in cluster J**

Relative:
Lower

Actual:
638 ft.

AST:

Name:	BLAW-KNOX F & C EQUIP. CO.
Address:	750 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211
Region:	STATE
DEC Region:	9
Site Status:	Unregulated/Closed
Facility Id:	9-446513
Program Type:	PBS
UTM X:	186788.90281
UTM Y:	4758607.83574
Expiration Date:	N/A
Site Type:	Unknown

Affiliation Records:

Site Id:	54415
Affiliation Type:	Facility Owner
Company Name:	BLAW-KNOX F & C EQUIP. CO.
Contact Type:	Not reported
Contact Name:	Not reported
Address1:	1 OLIVER PLAZA
Address2:	Not reported
City:	PITTSBURGH
State:	PA
Zip Code:	15222
Country Code:	001
Phone:	(412) 263-2236
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT
Date Last Modified:	2004-03-04

Site Id:	54415
Affiliation Type:	Mail Contact
Company Name:	BLAW-KNOX F & C EQUIP. CO.
Contact Type:	Not reported
Contact Name:	Not reported
Address1:	1 OLIVER PLAZA
Address2:	Not reported
City:	PITTSBURGH
State:	PA
Zip Code:	15222
Country Code:	001
Phone:	(412) 263-2236
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TRANSLAT

BLAW-KNOX F & C EQUIP. CO. (Continued) **U004046166**

Date Last Modified: 2004-03-04

Site Id: 54415
Affiliation Type: Facility Operator
Company Name: BLAW-KNOX F & C EQUIP. CO.
Contact Type: Not reported
Contact Name: BLAW-KNOX F & C EQUIP. CO.
Address1: Not reported
Address2: Not reported
City: Not reported
State: NN
Zip Code: Not reported
Country Code: 001
Phone: (716) 895-2100
EMail: Not reported
Fax Number: Not reported
Modified By: TRANSLAT
Date Last Modified: 2004-03-04

Site Id: 54415
Affiliation Type: Emergency Contact
Company Name: BLAW-KNOX F & C EQUIP. CO.
Contact Type: Not reported
Contact Name: FRANK J. GIOIA
Address1: Not reported
Address2: Not reported
City: Not reported
State: NN
Zip Code: Not reported
Country Code: 001
Phone: (716) 874-1692
EMail: Not reported
Fax Number: Not reported
Modified By: TRANSLAT
Date Last Modified: 2004-03-04

Tank Info:

Tank Number: 1
Tank Id: 167859
Material Code: 0001
Common Name of Substance: #2 Fuel Oil (On-Site Consumption)

Equipment Records:

H99 - Tank Leak Detection - Other
A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser
G00 - Tank Secondary Containment - None

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron

BLAW-KNOX F & C EQUIP. CO. (Continued) **U004046166**

Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	01/01/1967
Capacity Gallons:	20000
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	04/01/1992
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (on-site consumption)

Tank Number:	2
Tank Id:	167860
Material Code:	0001
Common Name of Substance:	#2 Fuel Oil (On-Site Consumption)

Equipment Records:

A00 - Tank Internal Protection - None
D01 - Pipe Type - Steel/Carbon Steel/Iron
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
F00 - Pipe External Protection - None
I00 - Overfill - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser
H99 - Tank Leak Detection - Other

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed Prior to Micro Conversion, 03/91
Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	6743
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (on-site consumption)

K42 **ERIE COUNTY YOUTH DETENTION** **NY UST** **U004154682**
SSE **810 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.197 mi.
1042 ft. **Site 1 of 5 in cluster K**

Relative: UST:
Lower

Actual: Name:	ERIE COUNTY YOUTH DETENTION
639 ft. Address:	810 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211
Id/Status:	9-601200 / Active
Program Type:	PBS

ERIE COUNTY YOUTH DETENTION (Continued) **U004154682**

Region:	STATE
DEC Region:	9
Expiration Date:	06/14/2025
UTM X:	186961.60380
UTM Y:	4758474.13323
Site Type:	Municipality (Incl. Waste Water Treatment Plants, Utilities, Swimming Pools, etc.)

Affiliation Records:

Site Id:	436092
Affiliation Type:	Facility Operator
Company Name:	ERIE COUNTY YOUTH DETENTION
Contact Type:	Not reported
Contact Name:	SAMUEL HOFFMAN
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 858-7372
EMail:	Not reported
Fax Number:	Not reported
Modified By:	IRKULAKO
Date Last Modified:	2022-10-14

Site Id:	436092
Affiliation Type:	Facility Owner
Company Name:	ERIE COUNTY DPW
Contact Type:	COMMISSIONER OF PUBLIC WORKS
Contact Name:	WILLIAM GEARY
Address1:	95 FRANKLIN STREET
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14202
Country Code:	001
Phone:	(716) 858-8300
EMail:	Not reported
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2021-04-14

Site Id:	436092
Affiliation Type:	Emergency Contact
Company Name:	ERIE COUNTY BUILDINGS AND GROUNDS
Contact Type:	Not reported
Contact Name:	SANDOR TOTH
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(716) 364-5538
EMail:	Not reported
Fax Number:	Not reported
Modified By:	SLZIEMBA
Date Last Modified:	2015-05-26

ERIE COUNTY YOUTH DETENTION (Continued) **U004154682**

Site Id:	436092
Affiliation Type:	Mail Contact
Company Name:	ERIE COUNTY DEPARTMENT OF PUBLIC WORKS
Contact Type:	COMMISSIONER OF PUBLIC WORKS
Contact Name:	COMMISSIONER OF PUBLIC WORKS
Address1:	95 FRANKLIN STREET
Address2:	14TH FLOOR
City:	BUFFALO
State:	NY
Zip Code:	14202
Country Code:	001
Phone:	(716) 858-8300
EMail:	WILLIAM.GEARY@ERIE.GOV
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2021-04-14

Tank Info:

Tank Number:	#1
Tank ID:	234881
Tank Status:	In Service
Material Name:	In Service
Capacity Gallons:	5000
Install Date:	09/30/2003
Date Tank Closed:	Not reported
Registered:	True
Tank Location:	Underground
Tank Type:	0
Material Code:	0001
Common Name of Substance:	#2 Fuel Oil (On-Site Consumption)
Tightness Test Method:	21
Date Test:	08/26/2013
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

B09 - Tank External Protection - Urethane
E04 - Piping Secondary Containment - Double walled UG
K01 - Spill Prevention - Catch Basin
L09 - Piping Leak Detection - Exempt Suction Piping
I03 - Overfill - Automatic Shut-Off
D01 - Pipe Type - Steel/Carbon Steel/Iron
H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
A00 - Tank Internal Protection - None
F05 - Pipe External Protection - Jacketed
J02 - Dispenser - Suction Dispenser
L01 - Piping Leak Detection - Interstitial - Electronic Monitoring
F09 - Pipe External Protection - Urethane
C03 - Pipe Location - Aboveground/Underground Combination
G04 - Tank Secondary Containment - Double-Walled (Underground)

K43 **ERIE COUNTY YOUTH DETENTION** **NY AST** **A100515156**
SSE **810 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.197 mi.
1042 ft. **Site 2 of 5 in cluster K**

Relative:
Lower

Actual:
639 ft.

AST:

Name:	ERIE COUNTY YOUTH DETENTION
Address:	810 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211
Region:	STATE
DEC Region:	9
Site Status:	Active
Facility Id:	9-601200
Program Type:	PBS
UTM X:	186961.60380
UTM Y:	4758474.13323
Expiration Date:	06/14/2025
Site Type:	Municipality (Incl. Waste Water Treatment Plants, Utilities, Swimming Pools, etc.)

Affiliation Records:

Site Id:	436092
Affiliation Type:	Facility Operator
Company Name:	ERIE COUNTY YOUTH DETENTION
Contact Type:	Not reported
Contact Name:	SAMUEL HOFFMAN
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 858-7372
EMail:	Not reported
Fax Number:	Not reported
Modified By:	IRKULAKO
Date Last Modified:	2022-10-14

Site Id:	436092
Affiliation Type:	Facility Owner
Company Name:	ERIE COUNTY DPW
Contact Type:	COMMISSIONER OF PUBLIC WORKS
Contact Name:	WILLIAM GEARY
Address1:	95 FRANKLIN STREET
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14202
Country Code:	001
Phone:	(716) 858-8300
EMail:	Not reported
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2021-04-14

Site Id:	436092
Affiliation Type:	Emergency Contact
Company Name:	ERIE COUNTY BUILDINGS AND GROUNDS
Contact Type:	Not reported
Contact Name:	SANDOR TOTH

ERIE COUNTY YOUTH DETENTION (Continued) **A100515156**

Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(716) 364-5538
EMail:	Not reported
Fax Number:	Not reported
Modified By:	SLZIEMBA
Date Last Modified:	2015-05-26

Site Id:	436092
Affiliation Type:	Mail Contact
Company Name:	ERIE COUNTY DEPARTMENT OF PUBLIC WORKS
Contact Type:	COMMISSIONER OF PUBLIC WORKS
Contact Name:	COMMISSIONER OF PUBLIC WORKS
Address1:	95 FRANKLIN STREET
Address2:	14TH FLOOR
City:	BUFFALO
State:	NY
Zip Code:	14202
Country Code:	001
Phone:	(716) 858-8300
EMail:	WILLIAM.GEARY@ERIE.GOV
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2021-04-14

Tank Info:

Tank Number:	2
Tank Id:	289787

Equipment Records:

K01 - Spill Prevention - Catch Basin
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
I04 - Overfill - Product Level Gauge (A/G)
J05 - Dispenser - On Site Heating System (Supply/Return)
L01 - Piping Leak Detection - Interstitial - Electronic Monitoring
G01 - Tank Secondary Containment - Diking (Aboveground)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
G10 - Tank Secondary Containment - Impervious Underlayment
E04 - Piping Secondary Containment - Double walled UG
C03 - Pipe Location - Aboveground/Underground Combination
F09 - Pipe External Protection - Urethane

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	09/26/2003
Capacity Gallons:	275
Tightness Test Method:	-
Date Test:	Not reported

ERIE COUNTY YOUTH DETENTION (Continued) **A100515156**

Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (on-site consumption)
Tank Number:	3
Tank Id:	289788

Equipment Records:

L00 - Piping Leak Detection - None
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
F00 - Pipe External Protection - None
I00 - Overfill - None
E00 - Piping Secondary Containment - None
K00 - Spill Prevention - None
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
C01 - Pipe Location - Aboveground
G12 - Tank Secondary Containment - Double-Walled (AG only)
J02 - Dispenser - Suction Dispenser
H05 - Tank Leak Detection - In-Tank System (ATG)

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	09/30/2003
Capacity Gallons:	1000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	diesel

K44 **ERIE COUNTY YOUTH DETENTION** **UST FINDER** **1028587387**
SSE **810 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.197 mi.
1042 ft. **Site 3 of 5 in cluster K**

Relative: **Lower**
Actual: **639 ft.**

UST FINDER:

Object ID:	315862
Facility ID:	NY436092
Name:	ERIE COUNTY YOUTH DETENTION
Address:	810 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211
Address Match Type:	Not reported
Open USTs:	1
Closed USTs:	0
TOS USTs:	0
Population 1500ft:	896

ERIE COUNTY YOUTH DETENTION (Continued) **1028587387**

Private Wells 1500ft:	0
Within 100yr Floodplain:	No
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Facility Status:	Open UST(s)
Date of Last Inspection:	Not reported
EPA Region:	2
Tribe:	Not reported
Coordinate Source:	State
X Coord:	-78.8345409999999
Y Coord:	42.914606
Latitude:	42.914606
Longitude:	-78.834541

UST FINDER:

Object ID:	1273261
Facility ID:	NY436092
Tank ID:	NY122336
Tank Status:	Open
Installation Date:	2003/09/30 15:59:59+00
Removal Date:	Not reported
Tank Capacity:	5000
Substances:	Not reported
Tank Wall Type:	Not reported

L45 **K & B SALVAGE** **NY SWF/LF** **S109015953**
NNW **509 EAST DELAVAN AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.200 mi.
1057 ft. **Site 1 of 3 in cluster L**

Relative:
Higher

Actual:
648 ft.

SWF/LF:

Name:	K & B SALVAGE
Address:	509 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Flag:	INACTIVE
Region Code:	9
Phone Number:	7168946132
Owner Name:	Kenneth Bandelian
Owner Type:	Private
Owner Address:	509 East Delavan Avenue
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14211
Owner Email:	Not reported
Owner Phone:	7168946132
Contact Name:	Kenneth Bandelian
Contact Address:	K&B Salvage
Contact Addr2:	509 East Delavan Avenue

K & B SALVAGE (Continued) **S109015953**

Contact City,St,Zip:	Buffalo, NY 14211
Contact Email:	Not reported
Contact Phone:	7168946132
Activity Desc:	z Retired - Vehicle Dismantling Facility
Activity Number:	[15J31]
Active:	No
East Coordinate:	186724
North Coordinate:	4759271
Accuracy Code:	4.2 - Utilization of GIS and existing spatial data
Regulatory Status:	None
Waste Type:	Not reported
Authorization #:	Not reported
Authorization Date:	Not reported
Expiration Date:	Not reported
Operator Name:	Not reported
Operator Type:	Not reported
Laste Date:	Not reported

I46 **STAR LINEN SUPPLY** **NY CBS** **S102639287**
NE **209 DUTTON AVE.** **NY AST** **N/A**
1/8-1/4 **BUFFALO, NY 14211** **NY CBS AST**
0.203 mi.
1070 ft. **Site 3 of 3 in cluster I**

Relative:
Higher

Actual:
657 ft.

CBS:

Name:	STAR LINEN SUPPLY
Address:	209 DUTTON AVE.
City,State,Zip:	BUFFALO, NY 14211
CBS Number:	9-000252
Program Type:	CBS
Facility Status:	Unregulated/Closed
Expiration Date:	Not reported
Dec Region:	9
UTMX:	187191.51474
UTMY:	4759059.51128

AST:

Name:	STAR LINEN SUPPLY
Address:	209 DUTTON AVE.
City,State,Zip:	BUFFALO, NY 14211
Region:	STATE
DEC Region:	9
Site Status:	Unregulated/Closed
Facility Id:	9-000252
Program Type:	CBS
UTM X:	187191.51474
UTM Y:	4759059.51128
Expiration Date:	N/A
Site Type:	Other

Tank Info:

Tank Number:	001
Tank Id:	188111
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Plastic
Tank Status:	Closed - Removed

STAR LINEN SUPPLY (Continued) **S102639287**

Pipe Model:	Not reported
Install Date:	Not reported
Capacity Gallons:	250
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	Not reported

CBS AST:

CBS Number:	9-000252
ICS Number:	9-700606
PBS Number:	Not reported
MOSF Number:	Not reported
SPDES Number:	Not reported
Facility Status:	IN SERVICE
Facility Type:	I
Telephone:	(716) 896-5689
Facility Town:	BUFFALO (C)
Region:	STATE
Expiration Date:	08/03/1995
Total Capacity of All Active Tanks(gal):	0
Operator:	RICHARD GIARDINA
Emergency Contact:	RICHARD GIARDINA
Emergency Phone:	(716) 896-5689
Owner Name:	STAR LINEN SUPPLY
Owner Address:	209 DUTTON AVE.
Owner City,St,Zip:	BUFFALO, NY 14211
Owner Telephone:	(716) 896-5689
Owner Type:	Corporate/Commercial
Owner Sub Type:	Not reported
Mail Name:	STAR LINEN SUPPLY
Mail Contact Addr:	209 DUTTON AVE.
Mail Contact Addr2:	Not reported
Mail Contact Contact:	RICHARD GIARDINA
Mail Contact City,St,Zip:	BUFFALO, NY 14211
Mail Phone:	(716) 896-5689

Tank Id:	001
CAS Number:	7782505
Federal ID:	Not reported
Tank Status:	0
Install Date:	00/00
Tank Closed:	00/00
Capacity (Gal):	250
Chemical:	Chlorine
Tank Location:	Indoors, Aboveground
Tank Type:	Fiberglass reinforced plastic [FRP]
Total Tanks:	0
Tank Secret:	False
Tank Secondary Containment:	Impervious Underlayment
Tank Error Status:	No Missing Data
Date Entered:	08/03/1989
Certified Date:	05/14/1993

STAR LINEN SUPPLY (Continued) **S102639287**

Substance:	Single Hazardous Substance on DEC List
Internal Protection:	Glass Liner
External Protection:	Fiberglass
Pipe Location:	Aboveground/Underground Combination
Pipe Type:	Fiberglass
Pipe Internal:	Fiberglass Liner (FRP
Pipe External:	Fiberglass
Pipe Flag:	Fiberglass
Leak Detection:	None
Overfill Protection:	None
Haz Percent:	15
Last Test:	Not reported
Due Date:	Not reported
SWIS Code:	1402
Lat/Long:	Not reported
Is Updated:	False
Renew Date:	05/03/93
Is It There:	False
Delinquent:	False
Date Expired:	08/03/95
Owner Mark:	1
Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Pre-Printed Renewal App Last Printed:	09/01/1998

H47 **BENS TIRE CENTER INC.** **NY SWTIRE** **S105056659**
North **540 EAST DELAVAN AVENUE** **NY Spills** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.206 mi.
1086 ft. **Site 6 of 8 in cluster H**

Relative: **Higher**

Actual: **653 ft.**

SWTIRE:

Contact Name:	Bennie Caudle
No of Tire:	Not reported
Concerns:	Not reported
Compliance Status:	Not reported
Facility Status:	Not reported
Region:	9
East Coordinate:	186828
North Coordinate:	4759307
Contact Address:	Ben’s Tire Center
Contact Address2:	540 East Delevan Avenue
Contact City:	Buffalo
Contact State:	NY
Contact Zip:	14211-1008
Contact Email:	Not reported
Owner Name:	Bennie Caudle
Owner Address:	540 East Delevan Avenue
Owner Address2:	Not reported
Owner City:	Buffalo
Owner State:	NY
Owner Zip:	14211-1008
Owner Email:	Bensalito@aol.com
Owner Phone:	7168910281
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported

BENS TIRE CENTER INC. (Continued) **S105056659**

Activity Desc: Waste tire storage - Dealer
Activity Number: [15K48]
Active: Yes
Accuracy Code: 4.2 - Utilization of GIS and existing spatial data
Waste Types: Waste Tires
Regulatory Status: Registration
Authorization Number: 15K48
Authorization Issue Date: Not reported
Expiration Date: Not reported
Date of Last Inspection: Not reported

SPILLS:
Name: BEN'S AUTO JUNKYARD
Address: 540 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 0175041 / 2001-05-18
Facility ID: 0175041
Facility Type: ER
DER Facility ID: 176155
Site ID: 212634
DEC Region: 9
Spill Cause: Housekeeping
Spill Class: D5
SWIS: 1502
Spill Date: 2001-04-13
Investigator: FXGALLEG
Referred To: Not reported
Reported to Dept: 2001-04-17
CID: Not reported
Water Affected: Not reported
Spill Source: Commercial/Industrial
Spill Notifier: DEC
Cleanup Ceased: Not reported
Cleanup Meets Std: False
Last Inspection: Not reported
Recommended Penalty: False
UST Trust: False
Remediation Phase: 0
Date Entered In Computer: 2001-04-17
Spill Record Last Update: 2001-05-21
Spiller Name: Not reported
Spiller Company: BEN'S AUTO
Spiller Address: 450 EAST DELAVAN AVENUE
Spiller Company: 001
Contact Name: Not reported
DEC Memo: DURING OPERATION OF JUNK YARD, PRACTICES INCLUDE CRUSHING CARS WITH NO PAD BENEATH THEM AND VARIOUS
OTHER TYPES OF SPILLAGE ON PREMISES.
Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG
05/18/01: FG NOTE, REGIONAL DIRECTOR HAS INDICATED THAT ALL JUNKYARD INSPECTIONS SHOULD BE HANDLED BY PETER GRASSO. THIS SPILL SITE IS REFERRED TO MR. GRASSO. NO FURTHER WORK BY SPILLS IS REQUIRED. THE SITE CAN BE CLOSED.

All Materials:
Site ID: 212634
Operable Unit ID: 852683

BENS TIRE CENTER INC. (Continued) **S105056659**

Operable Unit:	01
Material ID:	524367
Material Code:	0005A
Material Name:	auto waste fluids
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

H48 **BENS TIRE CENTER INC.** **NY SWF/LF** **S128177785**
North **540 EAST DELAVAN AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.206 mi.
1086 ft. **Site 7 of 8 in cluster H**

Relative: **Higher**

Actual: **653 ft.**

SWF/LF:

Name:	BENS TIRE CENTER INC.
Address:	540 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Flag:	ACTIVE
Region Code:	9
Phone Number:	7168910281
Owner Name:	Craig E. Santos Jr.
Owner Type:	Private
Owner Address:	1052 Eden Evans Center Rd.
Owner Addr2:	Not reported
Owner City,St,Zip:	Angola, NY 14006
Owner Email:	cjcoresllc@outlook.com
Owner Phone:	5085368843
Contact Name:	Craig Santos Jr
Contact Address:	Not reported
Contact Addr2:	Not reported
Contact City,St,Zip:	Not reported
Contact Email:	tirecenter.bens@gmail.com
Contact Phone:	5085368843
Activity Desc:	Motor vehicle repair shop - registration
Activity Number:	[15V40078]
Active:	Yes
East Coordinate:	186828
North Coordinate:	4759307
Accuracy Code:	1 - No accuracy stated
Regulatory Status:	Registration
Waste Type:	End of Life Vehicles
Authorization #:	15V40078
Authorization Date:	3/1/2021
Expiration Date:	3/1/2026
Operator Name:	Craig E. Santos Jr.
Operator Type:	Private
Laste Date:	5/5/2022

Name:	BENS TIRE CENTER INC.
Address:	540 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Flag:	ACTIVE

BENS TIRE CENTER INC. (Continued) **S128177785**

Region Code:	9
Phone Number:	7168910281
Owner Name:	Craig E. Santos Jr.
Owner Type:	Private
Owner Address:	1052 Eden Evans Center Rd.
Owner Addr2:	Not reported
Owner City,St,Zip:	Angola, NY 14006
Owner Email:	cjcoresllc@outlook.com
Owner Phone:	5085368843
Contact Name:	Craig Santos Jr
Contact Address:	Not reported
Contact Addr2:	Not reported
Contact City,St,Zip:	Not reported
Contact Email:	tirecenter.bens@gmail.com
Contact Phone:	5085368843
Activity Desc:	VDF - registration
Activity Number:	[15V50078]
Active:	Yes
East Coordinate:	186828
North Coordinate:	4759307
Accuracy Code:	1 - No accuracy stated
Regulatory Status:	Registration
Waste Type:	End of Life Vehicles
Authorization #:	15V50078
Authorization Date:	3/1/2021
Expiration Date:	3/1/2026
Operator Name:	Craig E. Santos Jr.
Operator Type:	Private
Laste Date:	5/5/2022

Name:	BENS TIRE CENTER INC.
Address:	540 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Flag:	INACTIVE
Region Code:	9
Phone Number:	7168910281
Owner Name:	Craig E. Santos Jr.
Owner Type:	Private
Owner Address:	1052 Eden Evans Center Rd.
Owner Addr2:	Not reported
Owner City,St,Zip:	Angola, NY 14006
Owner Email:	cjcoresllc@outlook.com
Owner Phone:	5085368843
Contact Name:	Craig Santos Jr
Contact Address:	Not reported
Contact Addr2:	Not reported
Contact City,St,Zip:	Not reported
Contact Email:	tirecenter.bens@gmail.com
Contact Phone:	5085368843
Activity Desc:	Scrap metal processor - registration
Activity Number:	[15V30078]
Active:	No
East Coordinate:	186828
North Coordinate:	4759307
Accuracy Code:	1 - No accuracy stated
Regulatory Status:	Registration
Waste Type:	Scrap Metal - Aluminum ;Scrap Metal - Ferrous ;Scrap Metal -

BENS TIRE CENTER INC. (Continued) **S128177785**

Non-ferrous
Authorization #: 15V30078
Authorization Date: 6/4/2020
Expiration Date: 6/4/2025
Operator Name: Craig E. Santos Jr.
Operator Type: Private
Laste Date: Not reported

Name: BENS TIRE CENTER INC.
Address: 540 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14211
Flag: INACTIVE
Region Code: 9
Phone Number: 7168910281
Owner Name: Craig E. Santos Jr.
Owner Type: Private
Owner Address: 1052 Eden Evans Center Rd.
Owner Addr2: Not reported
Owner City,St,Zip: Angola, NY 14006
Owner Email: cjcoresllc@outlook.com
Owner Phone: 5085368843
Contact Name: Craig Santos Jr
Contact Address: Not reported
Contact Addr2: Not reported
Contact City,St,Zip: Not reported
Contact Email: tirecenter.bens@gmail.com
Contact Phone: 5085368843
Activity Desc: z Retired - Vehicle Dismantling Facility
Activity Number: [15J12]
Active: No
East Coordinate: 186828
North Coordinate: 4759307
Accuracy Code: 4.2 - Utilization of GIS and existing spatial data
Regulatory Status: None
Waste Type: Not reported
Authorization #: Not reported
Authorization Date: Not reported
Expiration Date: Not reported
Operator Name: Craig E. Santos Jr.
Operator Type: Private
Laste Date: Not reported

Name: BENS TIRE CENTER INC.
Address: 540 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14211
Flag: INACTIVE
Region Code: 9
Phone Number: 7168910281
Owner Name: Craig E. Santos Jr.
Owner Type: Private
Owner Address: 1052 Eden Evans Center Rd.
Owner Addr2: Not reported
Owner City,St,Zip: Angola, NY 14006
Owner Email: cjcoresllc@outlook.com
Owner Phone: 5085368843
Contact Name: Craig Santos Jr
Contact Address: Not reported

BENS TIRE CENTER INC. (Continued) **S128177785**

Contact Addr2:	Not reported
Contact City,St,Zip:	Not reported
Contact Email:	tirecenter.bens@gmail.com
Contact Phone:	5085368843
Activity Desc:	z Retired - Waste tire storage - Dealer
Activity Number:	[15K48]
Active:	No
East Coordinate:	186828
North Coordinate:	4759307
Accuracy Code:	4.2 - Utilization of GIS and existing spatial data
Regulatory Status:	Registration
Waste Type:	Waste Tires
Authorization #:	15K48
Authorization Date:	6/16/2010
Expiration Date:	3/1/2021
Operator Name:	Craig E. Santos Jr.
Operator Type:	Private
Laste Date:	Not reported

H49 **BEN'S TIRE CENTER INC.** **NY AST** **A100452314**
North **540 E. DELEVAN AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.206 mi.
1086 ft. **Site 8 of 8 in cluster H**

Relative:
Higher

Actual:
653 ft.

AST:

Name:	BEN'S TIRE CENTER INC.
Address:	540 E. DELEVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Region:	STATE
DEC Region:	9
Site Status:	Active
Facility Id:	9-600569
Program Type:	PBS
UTM X:	186868.72255
UTM Y:	4759287.32182
Expiration Date:	05/01/2025
Site Type:	Other

Affiliation Records:

Site Id:	55412
Affiliation Type:	Facility Owner
Company Name:	CRAIG E SANTOS JR.
Contact Type:	PRESIDENT
Contact Name:	CRAIG E. SANTOS JR
Address1:	1052 EDEN EVANS CENTER ROAD
Address2:	Not reported
City:	ANGOLA
State:	NY
Zip Code:	14006
Country Code:	001
Phone:	(508) 536-8843
EMail:	Not reported
Fax Number:	Not reported
Modified By:	MASTREIC
Date Last Modified:	2021-03-11

Site Id:	55412

BEN'S TIRE CENTER INC. (Continued) **A100452314**

Affiliation Type:	Facility Operator
Company Name:	BENS TIRE CENTER INC.
Contact Type:	Not reported
Contact Name:	CRAIG SANTOS
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 891-0281
EMail:	Not reported
Fax Number:	Not reported
Modified By:	MASTREIC
Date Last Modified:	2021-03-11

Site Id:	55412
Affiliation Type:	Mail Contact
Company Name:	BENS TIRE CENTER INC.
Contact Type:	Not reported
Contact Name:	TARA BROCUS
Address1:	540 E. DELEVAN AVENUE
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14211
Country Code:	001
Phone:	(716) 891-0281
EMail:	TIRECENTER.BENS@GMAIL.COM
Fax Number:	Not reported
Modified By:	MASTREIC
Date Last Modified:	2021-03-11

Site Id:	55412
Affiliation Type:	Emergency Contact
Company Name:	CRAIG E SANTOS JR.
Contact Type:	Not reported
Contact Name:	CRAIG SANTOS
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(508) 536-8843 .
EMail:	Not reported
Fax Number:	Not reported
Modified By:	MASTREIC
Date Last Modified:	2021-03-11

Tank Info:

Tank Number:	001
Tank Id:	174380

Equipment Records:

H00 - Tank Leak Detection - None

BEN'S TIRE CENTER INC. (Continued) **A100452314**

I00 - Overfill - None
A00 - Tank Internal Protection - None
F00 - Pipe External Protection - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
G00 - Tank Secondary Containment - None

Tank Location: Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: Closed - Removed
Pipe Model: Not reported
Install Date: 04/01/2002
Capacity Gallons: 1000
Tightness Test Method: NN
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: 06/16/2010
Register: True
Modified By: MJGRIFFI
Last Modified: 05/09/2022
Material Name: diesel

Tank Number: 002
Tank Id: 174381

Equipment Records:

A00 - Tank Internal Protection - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
G00 - Tank Secondary Containment - None

Tank Location: Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: Closed - Removed
Pipe Model: Not reported
Install Date: 04/01/2002
Capacity Gallons: 400
Tightness Test Method: NN
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: 06/01/2009
Register: True
Modified By: MJGRIFFI
Last Modified: 05/09/2022
Material Name: diesel

Tank Number: 1
Tank Id: 280712

Equipment Records:

H00 - Tank Leak Detection - None

BEN'S TIRE CENTER INC. (Continued) **A100452314**

I00 - Overfill - None
K00 - Spill Prevention - None
A00 - Tank Internal Protection - None
J00 - Dispenser - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
G00 - Tank Secondary Containment - None

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	05/01/2010
Capacity Gallons:	275
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	10/06/2020
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (resale/redistribute)
Tank Number:	2
Tank Id:	280713

Equipment Records:

A00 - Tank Internal Protection - None
K00 - Spill Prevention - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
J00 - Dispenser - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
G00 - Tank Secondary Containment - None

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	05/01/2010
Capacity Gallons:	240
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	10/06/2020
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	used oil (heating, on-site consumption)
Tank Number:	3
Tank Id:	234919

BEN'S TIRE CENTER INC. (Continued) **A100452314**

Equipment Records:
A00 - Tank Internal Protection - None
K00 - Spill Prevention - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
J00 - Dispenser - None
G00 - Tank Secondary Containment - None

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	05/01/2010
Capacity Gallons:	275
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	10/06/2020
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	used oil (heating, on-site consumption)
Tank Number:	4
Tank Id:	234920

Equipment Records:
A00 - Tank Internal Protection - None
K00 - Spill Prevention - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
J00 - Dispenser - None
G00 - Tank Secondary Containment - None

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	05/01/2010
Capacity Gallons:	250
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	10/06/2020
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	used oil (heating, on-site consumption)

BEN'S TIRE CENTER INC. (Continued) **A100452314**

Tank Number: 5
Tank Id: 234921

Equipment Records:

I04 - Overfill - Product Level Gauge (A/G)
K00 - Spill Prevention - None
A00 - Tank Internal Protection - None
H00 - Tank Leak Detection - None
E00 - Piping Secondary Containment - None
F00 - Pipe External Protection - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
L00 - Piping Leak Detection - None
D00 - Pipe Type - No Piping
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Location: Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 05/01/2010
Capacity Gallons: 500
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: Not reported
Register: True
Modified By: MJGRIFFI
Last Modified: 05/09/2022
Material Name: diesel

Tank Number: 6
Tank Id: 289618

Equipment Records:

F00 - Pipe External Protection - None
K00 - Spill Prevention - None
D10 - Pipe Type - Copper
I04 - Overfill - Product Level Gauge (A/G)
E00 - Piping Secondary Containment - None
H00 - Tank Leak Detection - None
L00 - Piping Leak Detection - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser
C01 - Pipe Location - Aboveground
A00 - Tank Internal Protection - None
B00 - Tank External Protection - None

Tank Location: Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: In Service
Pipe Model: Not reported
Install Date: 12/10/2020
Capacity Gallons: 275
Tightness Test Method: -
Date Test: Not reported

BEN'S TIRE CENTER INC. (Continued) **A100452314**

Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	used oil (heating, on-site consumption)

L50 **DELAVAN AUTO PARTS** **RCRA NonGen / NLR** **1000872075**
NNW **505 E DELAVAN AVE** **FINDS** **NY0000142133**
1/8-1/4 **BUFFALO, NY 14211** **ECHO**
0.207 mi. **NY MANIFEST**
1093 ft. **Site 2 of 3 in cluster L**

Relative: **Higher**

Actual: **648 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Delavan Auto Parts
Handler Address:	E DELAVAN AVE
Handler City,State,Zip:	BUFFALO, NY 14211-1005
EPA ID:	NY0000142133
Contact Name:	JOSEPH DIRIENZO
Contact Address:	E DELAVAN AVE
Contact City,State,Zip:	BUFFALO, NY 14211-1005
Contact Telephone:	716-892-3312
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	E DELAVAN AVE
Mailing City,State,Zip:	BUFFALO, NY 14211-1005
Owner Name:	Lor-Cel Corp Dba Delavan Auto Parts
Owner Type:	Private
Operator Name:	Lor-Cel Corp Dba Delavan Auto Parts
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D008
Waste Description:	Lead
Waste Code:	D039
Waste Description:	Tetrachloroethylene

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	LOR-CEL CORP DBA DELAVAN AUTO PARTS
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	505 E DELAVAN AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211-1005
Owner/Operator Telephone:	716-892-3312
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	LOR-CEL CORP DBA DELAVAN AUTO PARTS
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	505 E DELAVAN AVE
Owner/Operator City,State,Zip:	BUFFALO, NY 14211-1005
Owner/Operator Telephone:	716-892-3312

DELAVAN AUTO PARTS (Continued) **1000872075**

Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LOR-CEL CORP DBA DELAVAN AUTO PARTS
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 505 E DELAVAN AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14211-1005
Owner/Operator Telephone: 716-892-3312
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20060101
Handler Name: DELAVAN AUTO PARTS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: DELAVAN AUTO PARTS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940310
Handler Name: DELAVAN AUTO PARTS
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110004312841

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The New York Department of Environmental Conservation Facility Information System (FIS) database houses all information about facilities that are regulated or of environmental interest to the state of New York.
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000872075
Registry ID:	110004312841
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110004312841
Name:	DELAVAN AUTO PARTS
Address:	505 E DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14211

Manifest Facility Information:

EPA ID:	NY0000142133
Country:	USA
Name:	DELEVAN AUTO PART
Address:	505 E DELAVAN AVE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211-1005
Zip 4:	Not reported
Location Address 1:	505 E DELAVAN
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:
Mailing Name: DELEVAN AUTO PART

DELAVAN AUTO PARTS (Continued) **1000872075**

Mailing Contact:	MIKE MCDANEY
Mailing Address 1:	505 E DELAVAN
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14211
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168923312

Manifest Data:

Document ID:	NYC5622197
Manifest Status:	Not reported
Trans1 State ID:	NYHW9192
Year:	1999
Trans2 State ID:	Not reported
Generator Ship Date:	05/03/1999
Trans1 Recv Date:	05/03/1999
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/03/1999
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00018
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC5598448
Manifest Status:	Not reported
Trans1 State ID:	NYHJ9192
Year:	1999
Trans2 State ID:	Not reported
Generator Ship Date:	04/07/1999
Trans1 Recv Date:	04/07/1999

DELAVAN AUTO PARTS (Continued) **1000872075**

Trans2 Recv Date:	Not reported
TSD Site Recv Date:	04/07/1999
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00018
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4407467
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1996
Trans2 State ID:	Not reported
Generator Ship Date:	12/23/1996
Trans1 Recv Date:	12/23/1996
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/23/1996
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00019
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC6270480
Manifest Status:	Not reported
Trans1 State ID:	IT5466
Year:	2000
Trans2 State ID:	Not reported
Generator Ship Date:	08/28/2000
Trans1 Recv Date:	08/28/2000
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/28/2000
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	SCR000075150
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00009
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle

DELAVAN AUTO PARTS (Continued) **1000872075**

Specific Gravity:	01.00
Document ID:	NYC3362556
Manifest Status:	Not reported
Trans1 State ID:	NYIT5466
Year:	1994
Trans2 State ID:	Not reported
Generator Ship Date:	12/13/1994
Trans1 Recv Date:	12/13/1994
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/13/1994
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00019
Units:	Gallons (liquids only)
Number of Containers:	003
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Document ID:	NYC6260040
Manifest Status:	Not reported
Trans1 State ID:	LC9100
Year:	2000
Trans2 State ID:	Not reported
Generator Ship Date:	09/19/2000
Trans1 Recv Date:	09/19/2000
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/19/2000
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	SCR000075150
Trans2 EPA ID:	Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00008
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4831672
Manifest Status:	Not reported
Trans1 State ID:	NYGA6403
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/13/1997
Trans1 Recv Date:	08/13/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/13/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00009
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4677254
Manifest Status:	Not reported
Trans1 State ID:	NYHJ9192
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	03/20/1997
Trans1 Recv Date:	03/20/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/20/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	SILVER
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00008
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4431846
Manifest Status:	Not reported
Trans1 State ID:	NYHC9192
Year:	1997
Trans2 State ID:	Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

Generator Ship Date:	02/03/1997
Trans1 Recv Date:	02/03/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	02/03/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00007
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4663877
Manifest Status:	Not reported
Trans1 State ID:	NYHJ9192
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	02/27/1997
Trans1 Recv Date:	02/27/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	02/27/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported

DELAVAN AUTO PARTS (Continued) **1000872075**

Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00008
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Document ID:	NYC4875030
Manifest Status:	Not reported
Trans1 State ID:	NYHU9192
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	09/25/1997
Trans1 Recv Date:	09/25/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/25/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NY0000142133
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD981556541
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00009
Units:	Gallons (liquids only)
Number of Containers:	001

DELAVAN AUTO PARTS (Continued) **1000872075**

Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00

Click this hyperlink while viewing on your computer to access
122 additional NY MANIFEST: record(s) in the EDR Site Report.

L51 **DELAVAN AUTO PARTS** **NY SWF/LF** **S128178017**
NNW **505 EAST DELAVAN AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.207 mi.
1093 ft. **Site 3 of 3 in cluster L**

Relative:
Higher

Actual:
648 ft.

SWF/LF:

Name:	DELAVAN AUTO PARTS
Address:	505 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Flag:	ACTIVE
Region Code:	9
Phone Number:	7168923312
Owner Name:	Joseph DiRienzo Sr
Owner Type:	Private
Owner Address:	1010 Bowen Rd
Owner Addr2:	Not reported
Owner City,St,Zip:	Elma, NY 14059
Owner Email:	Not reported
Owner Phone:	7166527927
Contact Name:	Kimberly Sheedy
Contact Address:	Delavan Auto Parts
Contact Addr2:	505 East Delavan Avenue
Contact City,St,Zip:	Buffalo, NY 14211
Contact Email:	ksheedy@roadrunner.com
Contact Phone:	7168923312
Activity Desc:	VDF - registration
Activity Number:	[15V50086]
Active:	Yes
East Coordinate:	186734
North Coordinate:	4759273
Accuracy Code:	1 - No accuracy stated
Regulatory Status:	Registration
Waste Type:	End of Life Vehicles
Authorization #:	15V50086
Authorization Date:	1/1/2021
Expiration Date:	1/1/2026
Operator Name:	Joseph DiRienzo Sr
Operator Type:	Private
Laste Date:	Not reported

Name:	DELAVAN AUTO PARTS
Address:	505 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14211
Flag:	INACTIVE
Region Code:	9
Phone Number:	7168923312
Owner Name:	Joseph DiRienzo Sr
Owner Type:	Private
Owner Address:	1010 Bowen Rd

DELAVAN AUTO PARTS (Continued) **S128178017**

Owner Addr2:	Not reported
Owner City,St,Zip:	Elma, NY 14059
Owner Email:	Not reported
Owner Phone:	7166527927
Contact Name:	Kimberly Sheedy
Contact Address:	Delavan Auto Parts
Contact Addr2:	505 East Delavan Avenue
Contact City,St,Zip:	Buffalo, NY 14211
Contact Email:	ksheedy@roadrunner.com
Contact Phone:	7168923312
Activity Desc:	z Retired - Vehicle Dismantling Facility
Activity Number:	[15J24]
Active:	No
East Coordinate:	186692
North Coordinate:	4759269
Accuracy Code:	4.2 - Utilization of GIS and existing spatial data
Regulatory Status:	None
Waste Type:	Not reported
Authorization #:	Not reported
Authorization Date:	Not reported
Expiration Date:	Not reported
Operator Name:	Joseph DiRienzo Sr
Operator Type:	Private
Laste Date:	Not reported

M52 **INTERNATIONAL MARINE SALVAGE INC** **RCRA NonGen / NLR** **1004762829**
SSE **812 E FERRY ST** **FINDS** **NYR000100891**
1/8-1/4 **BUFFALO, NY 14211** **ECHO**
0.217 mi. **NY MANIFEST**
1145 ft. **Site 1 of 5 in cluster M**

Relative: **Lower**
Actual: **638 ft.**

RCRA Listings:

Date Form Received by Agency:	20230217
Handler Name:	Raw Materials Co Inc
Handler Address:	E FERRY ST
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYR000100891
Contact Name:	JAMES EWLES
Contact Address:	PO BOX 6
Contact City,State,Zip:	PORT COLBORNE, ON L3K5V7
Contact Telephone:	905-835-1203 x226
Contact Fax:	905-835-6824
Contact Email:	HSE@RAWMATERIALS.COM
Contact Title:	PRESIDENT
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	PO BOX 6
Mailing City,State,Zip:	PORT COLBORNE, ON L3K5V7
Owner Name:	Kbsd Llc
Owner Type:	Private
Operator Name:	Heshee Llc

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	Yes
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230222
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	Yes
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D003
Waste Description:	Reactive Waste
Waste Code:	D006
Waste Description:	Cadmium
Waste Code:	D008

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D011
Waste Description: Silver

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: HESHEE LLC
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: 315 BABCOCK ST
Owner/Operator City,State,Zip: BUFFALO, NY 14210
Owner/Operator Telephone: 716-830-3325
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HESHEE LLC
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: 315 BABCOCK ST
Owner/Operator City,State,Zip: BUFFALO, NY 14210
Owner/Operator Telephone: 716-830-3325
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: RAW MATERIALS CO INC
Legal Status: Private
Date Became Current: 20090429
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: RAW MATERIALS CO INC
Legal Status: Private
Date Became Current: 20090429
Date Ended Current: Not reported
Owner/Operator Address: 17 INVERTOSE DRIVE
Owner/Operator City,State,Zip: PORT COLBORNE, ON L3K5V5
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Owner/Operator Indicator:	Operator
Owner/Operator Name: HESHEE LLC	
Legal Status:	Private
Date Became Current:	20010101
Date Ended Current:	Not reported
Owner/Operator Address:	315 BABCOCK ST
Owner/Operator City,State,Zip:	BUFFALO, NY 14210
Owner/Operator Telephone:	716-830-3325
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: HESHEE LLC	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	315 BABCOCK ST
Owner/Operator City,State,Zip:	BUFFALO, NY 14210
Owner/Operator Telephone:	716-830-3325
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: HESHEE LLC	
Legal Status:	Private
Date Became Current:	20010101
Date Ended Current:	Not reported
Owner/Operator Address:	315 BABCOCK ST
Owner/Operator City,State,Zip:	BUFFALO, NY 14210
Owner/Operator Telephone:	716-830-3325
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: KBSD LLC	
Legal Status:	Private
Date Became Current:	20010308
Date Ended Current:	Not reported
Owner/Operator Address:	1352 GENESEE ST
Owner/Operator City,State,Zip:	BUFFALO, NY 14211
Owner/Operator Telephone:	716-332-4068
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: HESHEE LLC	
Legal Status:	Private
Date Became Current:	20010101
Date Ended Current:	Not reported
Owner/Operator Address:	315 BABCOCK ST
Owner/Operator City,State,Zip:	BUFFALO, NY 14210
Owner/Operator Telephone:	716-830-3325
Owner/Operator Telephone Ext:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: KBSD LLC
Legal Status: Private
Date Became Current: 20010308
Date Ended Current: Not reported
Owner/Operator Address: 1352 GENESEE ST
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-332-4068
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: HESHEE LLC
Legal Status: Private
Date Became Current: 20010101
Date Ended Current: Not reported
Owner/Operator Address: 315 BABCOCK ST
Owner/Operator City,State,Zip: BUFFALO, NY 14210
Owner/Operator Telephone: 716-830-3325
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20060101
Handler Name: INTERNATIONAL MARINE SALVAGE INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: INTERNATIONAL MARINE SALVAGE INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20011005
Handler Name: INTERNATIONAL MARINE SALVAGE INC
Federal Waste Generator Description: Small Quantity Generator

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20110304
Handler Name:	RAW MATERIALS CO INC
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20230217
Handler Name:	RAW MATERIALS CO INC
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	Yes
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	335911
NAICS Description:	STORAGE BATTERY MANUFACTURING

NAICS Code:	493190
NAICS Description:	OTHER WAREHOUSING AND STORAGE

Has the Facility Received Notices of Violations:

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Listing - General
Date Violation was Determined:	20100607
Actual Return to Compliance Date:	20101004
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20101129
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20100803-37

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Listing - General
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: State Statute or Regulation
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Permits - Application
Date Violation was Determined:	20100607
Actual Return to Compliance Date:	20101004
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20101129
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20100803-37
Enforcement Attorney:	D.S.
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Permits - Application
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20101129
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20100607
Actual Return to Compliance Date:	20101004
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20101129
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20100803-37
Enforcement Attorney:	D.S.
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: State Statute or Regulation
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Listing - General
Date Violation was Determined:	20100607
Actual Return to Compliance Date:	20101004
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20101129
Enforcement Responsible Agency:	State
Enforcement Docket Number:	R9-20100803-37
Enforcement Attorney:	D.S.
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	NYRG9
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: State Statute or Regulation
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20101129
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: State Statute or Regulation
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20101129
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Permits - Application
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20101129
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 9800
Paid Amount: 9800
Final Count: 1
Final Amount: 9800

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Listing - General
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37
Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Permits - Application
Date Violation was Determined: 20100607
Actual Return to Compliance Date: 20101004
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20100915
Enforcement Responsible Agency: State
Enforcement Docket Number: R9-20100803-37

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Enforcement Attorney: D.S.
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: NYRG9
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 18000
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20100709
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier: NYMRH
Evaluation Responsible Sub-Organization: CO
Actual Return to Compliance Date: 20101004
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20100709
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier: NYMRH
Evaluation Responsible Sub-Organization: CO
Actual Return to Compliance Date: 20101004
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20100607
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20101129
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NO LONGER A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100709
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100709
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100709
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20190906
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100709
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100709

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20140130
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100709
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	NYMRH
Evaluation Responsible Sub-Organization:	CO

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100607
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20101004
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:
Registry ID: 110012241920

Click Here for FRS Facility Detail Report:

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1004762829
Registry ID:	110012241920
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110012241920
Name:	INTERNATIONAL MARINE SALVAGE INC
Address:	812 E FERRY ST
City,State,Zip:	BUFFALO, NY 14211

Manifest Facility Information:

EPA ID:	NYR000100891
Country:	USA
Name:	RAW MATERIALS CO INC
Address:	812 E FERRY ST
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	812 E FERRY ST
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	Not reported
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	RAW MATERIALS CO INC
Mailing Contact:	RAW MATERIALS CO INC
Mailing Address 1:	PO BOX 6
Mailing Address 2:	Not reported
Mailing City,State,Zip:	PORT COLBORNE 14211
Mailing Zip 4:	Not reported
Mailing Country:	CAN
Mailing Phone:	9058356824

Manifest Data:

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD097644801
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	08/20/2010
Trans1 Recv Date:	08/20/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/23/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Generator EPA ID:	NYR000100891
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID980991566
TSDF ID 2:	Not reported
Manifest Tracking Number:	007366688JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H111
Waste Code a:	CORROSIVE WASTE
Waste Code b:	LEAD
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	400
Units:	Pounds
Number of Containers:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD097644801
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	08/20/2010
Trans1 Recv Date:	08/20/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/23/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000100891
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID980991566
TSDF ID 2:	Not reported
Manifest Tracking Number:	007366688JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	CADMIUM
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	816
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD097644801
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	08/20/2010
Trans1 Recv Date:	08/20/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/23/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000100891
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID980991566
TSDF ID 2:	Not reported
Manifest Tracking Number:	007366688JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	METHYL ETHYL KETONE
Waste Code b:	Not reported
Waste Code c:	Not reported

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	113
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	NYD097644801
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	08/20/2010
Trans1 Recv Date:	08/20/2010
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/23/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000100891
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID980991566
TSDF ID 2:	Not reported
Manifest Tracking Number:	007366689JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H111
Waste Code a:	LEAD
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	2485

INTERNATIONAL MARINE SALVAGE INC (Continued) **1004762829**

Units:	Pounds
Number of Containers:	5
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	1

M53 **VACANT WAREHOUSE TANKS** **NY LTANKS** **S104877184**
SSE **812 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY**
0.217 mi.
1145 ft. **Site 2 of 5 in cluster M**

Relative: **Lower**

Actual: **638 ft.**

LTANKS:

Name:	VACANT WAREHOUSE TANKS
Address:	812 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0075486 / 2001-01-18
Facility ID:	0075486
Site ID:	271327
Spill Date:	2000-11-01
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	B3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	2000-11-09
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	2000-12-07
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	2000-11-09
Spill Record Last Update:	2001-01-24
Spiller Name:	KURT MILLER
Spiller Company:	KURT MILLER
Spiller Address:	3126 HERNWOOD ROAD
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	220831
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG 11/10/00: FG TELECON TO ANDY KUSCERIK. HE SAID HE WILL COMPLETE THE TANK PULLS WITHIN THE NEXT COUPLE OF WEEKS. HE WILL CONTACT THIS OFFICE WHEN HE STARTS WORK. 12/07/00: FG SITE INSPECTION. TWO USTS REMOVED. A 1000 GALLON FUEL OIL AND A 6000 GALLON GASOLINE. ANDY KUSCERIK ON SITE. BOTH USTS WERE STAGED ON SITE. THEY WILL BE CUT OPEN AND CLEANED OUT TOMORROW. THE UST EXCAVATION FOR THE 6K TANK IS APPROXIMATELY 12 FT DEEP AT WHICH THE TOP OF ROCK WAS REACHED. THERE IS NO WATER IN THE EXCAVATION. FOUR SIDEWALL SAMPLES WILL BE COLLECTED. THERE ARE TWO SEPARATE SOIL PILES ON SITE, ONE NEAR EACH

VACANT WAREHOUSE TANKS (Continued) **S104877184**

Remarks: UST. 01/10/01: FG RECEIVED CLOSURE REPORT FROM BARRON & ASSOC. ALL EXCAVATION SAMPLES ARE BELOW STARS. THE SOIL DISPOSAL RECEIPT WAS INCLUDED. 6000 GALLONS OF WATER WAS DISPOSED BUT THE RECEIPT WAS NOT INCLUDED. ANDY KUCSERIK SAID THAT HE WILL SUBMIT THIS RECEIPT. 01/18/01: FG RECEIVED THE DISPOSAL RECEIPT FOR THE WATERS THAT WERE DISPOSED. NO FURTHER WORK IS REQUIRED. THE SITE CAN BE CLOSED. WHILE PHASE II INVESTIGATION ABANDONED TANKS AND GASOLINE CONTAMINATED SOIL WAS FOUND.

All Materials:

Site ID:	271327
Operable Unit ID:	836842
Operable Unit:	01
Material ID:	539056
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

M54 **VACANT WAREHOUSE TANKS** **UST FINDER RELEASE** **1029066301**
SSE **812 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY 0**
0.217 mi.
1145 ft. **Site 3 of 5 in cluster M**

Relative: **Lower**
Actual: **638 ft.**

UST FINDER RELEASE:

Object ID:	244141
Facility ID:	NY220831
Lust ID:	NY75486
Name:	VACANT WAREHOUSE TANKS
Address:	812 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	2000/11/01 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	871
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2

VACANT WAREHOUSE TANKS (Continued) **1029066301**

NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.83433
Y Coord:	42.91461
Latitude:	42.91461
Longitude:	-78.8343299999999

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55 INDECK-YERKES ENERGY CENTER **NY AST** **1001357424**
ENE 1 SHERIDAN DRIVE **N/A**
1/8-1/4 TONAWANDA, NY 14207
0.217 mi.
1148 ft.

Relative:
Higher

Actual:
649 ft.

AST:

Name:	INDECK-YERKES ENERGY CENTER
Address:	1 SHERIDAN DRIVE
City,State,Zip:	TONAWANDA, NY 14207
Region:	STATE
DEC Region:	9
Site Status:	Active
Facility Id:	9-491497
Program Type:	PBS
UTM X:	180096.30347
UTM Y:	4764499.52234
Expiration Date:	11/28/2024
Site Type:	Other

Affiliation Records:

Site Id:	54655
Affiliation Type:	Facility Operator
Company Name:	INDECK-YERKES ENERGY CENTER
Contact Type:	Not reported
Contact Name:	INDECK-YERKES LIMITED PRTNRSHP
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 874-9088
EMail:	Not reported
Fax Number:	Not reported
Modified By:	SLZIEMBA
Date Last Modified:	2014-10-29

Site Id:	54655
Affiliation Type:	Emergency Contact
Company Name:	EI DUPONT DE NEMOURS & CO., INC.
Contact Type:	Not reported
Contact Name:	SHIFT SUPERVISOR
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN

INDECK-YERKES ENERGY CENTER (Continued) **1001357424**

Zip Code:	Not reported
Country Code:	999
Phone:	(716) 874-7355
EMail:	Not reported
Fax Number:	Not reported
Modified By:	LDGOMEZ
Date Last Modified:	2019-08-21

Site Id:	54655
Affiliation Type:	Facility Owner
Company Name:	EI DUPONT DE NEMOURS & CO., INC.
Contact Type:	PLANT MGR
Contact Name:	DAVID LEDESMA
Address1:	3115 RIVER ROAD
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14207
Country Code:	001
Phone:	(716) 879-1899
EMail:	Not reported
Fax Number:	Not reported
Modified By:	ACDANIEL
Date Last Modified:	2021-10-26

Site Id:	54655
Affiliation Type:	Mail Contact
Company Name:	INDECK-YERKES LIMITED PARTNERSHIP
Contact Type:	Not reported
Contact Name:	JOHN KINGSTON
Address1:	1 SHERIDAN DRIVE
Address2:	Not reported
City:	TONAWANDA
State:	NY
Zip Code:	14150-7753
Country Code:	001
Phone:	(716) 874-9088
EMail:	JKINGSTON@INDECKENERGY.COM
Fax Number:	Not reported
Modified By:	AESKALSK
Date Last Modified:	2018-05-17

Tank Info:

Tank Number:	24353
Tank Id:	168663
Material Code:	0001
Common Name of Substance:	#2 Fuel Oil (On-Site Consumption)

Equipment Records:

B05 - Tank External Protection - Jacketed
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
G01 - Tank Secondary Containment - Diking (Aboveground)
H06 - Tank Leak Detection - Impervious Barrier/Concrete Pad (A/G)
A00 - Tank Internal Protection - None

INDECK-YERKES ENERGY CENTER (Continued) **1001357424**

B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
L99 - Piping Leak Detection - Other
E00 - Piping Secondary Containment - None
I02 - Overfill - High Level Alarm
K01 - Spill Prevention - Catch Basin
H02 - Tank Leak Detection - Interstitial - Manual Monitoring
J02 - Dispenser - Suction Dispenser

Tank Location:	Aboveground - contact with impervious barrier... Tank bottom rests on impervious barrier, allowing visual indication of leaks.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	08/01/1989
Capacity Gallons:	150000
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (on-site consumption)
Tank Number:	EDG
Tank Id:	230972
Material Code:	0008
Common Name of Substance:	Diesel

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
H99 - Tank Leak Detection - Other
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
G01 - Tank Secondary Containment - Diking (Aboveground)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
L99 - Piping Leak Detection - Other
J02 - Dispenser - Suction Dispenser
K99 - Spill Prevention - Other

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - In Place
Pipe Model:	Not reported
Install Date:	05/25/2000
Capacity Gallons:	1600
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	10/17/2014
Register:	True
Modified By:	MJGRIFFI

INDECK-YERKES ENERGY CENTER (Continued) **1001357424**

Last Modified: 05/09/2022
Material Name: diesel

Tank Number: EDG-1
Tank Id: 173966
Material Code: 0008
Common Name of Substance: Diesel

Equipment Records:

G01 - Tank Secondary Containment - Diking (Aboveground)
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
L99 - Piping Leak Detection - Other
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser
K99 - Spill Prevention - Other
E01 - Piping Secondary Containment - Diking (AG only)
H99 - Tank Leak Detection - Other

Tank Location: Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: Closed - Removed
Pipe Model: Not reported
Install Date: 05/25/2000
Capacity Gallons: 950
Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: 04/24/2017
Register: True
Modified By: MJGRIFFI
Last Modified: 05/09/2022
Material Name: diesel

Tank Number: EDG-2
Tank Id: 173967
Material Code: 0008
Common Name of Substance: Diesel

Equipment Records:

E01 - Piping Secondary Containment - Diking (AG only)
H99 - Tank Leak Detection - Other
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
L99 - Piping Leak Detection - Other
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)
J02 - Dispenser - Suction Dispenser
K99 - Spill Prevention - Other

INDECK-YERKES ENERGY CENTER (Continued) **1001357424**

	G01 - Tank Secondary Containment - Diking (Aboveground)
Tank Location:	Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	Closed - Removed
Pipe Model:	Not reported
Install Date:	05/25/2000
Capacity Gallons:	950
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	04/24/2017
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	diesel
Tank Number:	EDG-3
Tank Id:	269896

Equipment Records:

	A00 - Tank Internal Protection - None
	B01 - Tank External Protection - Painted/Asphalt Coating
	D01 - Pipe Type - Steel/Carbon Steel/Iron
	F01 - Pipe External Protection - Painted/Asphalt Coating
	L99 - Piping Leak Detection - Other
	E01 - Piping Secondary Containment - Diking (AG only)
	H99 - Tank Leak Detection - Other
	C01 - Pipe Location - Aboveground
	I04 - Overfill - Product Level Gauge (A/G)
	G01 - Tank Secondary Containment - Diking (Aboveground)
	J02 - Dispenser - Suction Dispenser
	K99 - Spill Prevention - Other
Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	04/24/2017
Capacity Gallons:	1250
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (on-site consumption)
Tank Number:	EFP
Tank Id:	230973
Material Code:	0001
Common Name of Substance:	#2 Fuel Oil (On-Site Consumption)

Equipment Records:

INDECK-YERKES ENERGY CENTER (Continued) **1001357424**

E01 - Piping Secondary Containment - Diking (AG only)
H99 - Tank Leak Detection - Other
A00 - Tank Internal Protection - None
B01 - Tank External Protection - Painted/Asphalt Coating
D01 - Pipe Type - Steel/Carbon Steel/Iron
F01 - Pipe External Protection - Painted/Asphalt Coating
L99 - Piping Leak Detection - Other
G01 - Tank Secondary Containment - Diking (Aboveground)
J02 - Dispenser - Suction Dispenser
K99 - Spill Prevention - Other
C01 - Pipe Location - Aboveground
I04 - Overfill - Product Level Gauge (A/G)

Tank Location:	Aboveground - on saddles, legs, racks, etc.... Tank bottom is elevated above grade or tank pad, allowing visual inspection.
Tank Type:	Steel/Carbon Steel/Iron
Tank Status:	In Service
Pipe Model:	Not reported
Install Date:	08/01/1989
Capacity Gallons:	177
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Date Tank Closed:	Not reported
Register:	True
Modified By:	MJGRIFFI
Last Modified:	05/09/2022
Material Name:	#2 fuel oil (on-site consumption)

K56 **CAMAIR INC** **UST FINDER RELEASE** **1029060193**
SSE **757 EAST FERRY STREET** **N/A**
1/8-1/4 **BUFFALO, NY 0**
0.222 mi.
1171 ft. **Site 4 of 5 in cluster K**

Relative: **Lower**
Actual: **638 ft.**

UST FINDER RELEASE:

Object ID:	244134
Facility ID:	NY146488
Lust ID:	NY9613865
Name:	CAMAIR INC
Address:	757 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1997/02/11 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	971
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601

CAMAIR INC (Continued) **1029060193**

Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.83493
Y Coord:	42.9145100000001
Latitude:	42.91451
Longitude:	-78.83493

K57 **SECONDARY SERVICES INC** **RCRA-SQG** **1001222861**
SSE **757 E FERRY ST** **NY LTANKS** **NYR000021519**
1/8-1/4 **BUFFALO, NY 14211** **NY Spills**
0.222 mi. **NY MANIFEST**
1171 ft. **Site 5 of 5 in cluster K**

Relative: **Lower**
Actual: **638 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Secondary Services Inc
Handler Address:	E FERRY ST
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYR000021519
Contact Name:	DAN OCONNOR
Contact Address:	E FERRY ST
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	716-896-4000
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	E FERRY ST
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	757 East Ferry Inc
Owner Type:	Private
Operator Name:	757 East Ferry Inc
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No

SECONDARY SERVICES INC (Continued) **1001222861**

Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F005
Waste Description:	The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

SECONDARY SERVICES INC (Continued) **1001222861**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: 757 EAST FERRY INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 757 E FERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-896-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: 757 EAST FERRY INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 757 E FERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-896-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: 757 EAST FERRY INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 757 E FERRY ST
Owner/Operator City,State,Zip: BUFFALO, NY 14211
Owner/Operator Telephone: 716-896-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20060101
Handler Name: SECONDARY SERVICES INC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: SECONDARY SERVICES INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No

SECONDARY SERVICES INC (Continued) **1001222861**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19990910
Handler Name: SECONDARY SERVICES INC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20120131
Actual Return to Compliance Date: 20120131
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20120202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20120221
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYTRN
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20120131
Actual Return to Compliance Date: 20120131
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20120202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20120221
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYTRN
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 20120131
Actual Return to Compliance Date: 20120221
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20120202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20120221
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYTRN
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20070608
Actual Return to Compliance Date: 20070710
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20070706
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYTCT
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20120131
Actual Return to Compliance Date: 20120131
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20120202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: 20120221
Disposition Status: AS
Disposition Status Description: ACTION SATISFIED (CASE CLOSED)
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYTRN
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20070608
Actual Return to Compliance Date: 20070710
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20070706
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYTCT
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20120131
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYTRN
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: 20120131
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20120131
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYTRN
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: 20120131
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20120131
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION

SECONDARY SERVICES INC (Continued) **1001222861**

Evaluation Responsible Person Identifier:	NYTRN
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20120221
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070608
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20070710
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20120131
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTRN
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20120131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180731
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070608
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20070710
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980225
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20140805
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYKHE
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

LTANKS:

Name:	CAMAIR INC
Address:	757 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9613865 / 1997-08-21
Facility ID:	9613865
Site ID:	174141
Spill Date:	1997-02-11
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	B3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	1997-02-13
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	1997-07-14
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1997-02-26
Spill Record Last Update:	1999-10-08

SECONDARY SERVICES INC (Continued) **1001222861**

Spiller Name:	MICHAEL ARNO
Spiller Company:	757 EAST FERRY INC.
Spiller Address:	757 EAST FERRY STREET
Spiller County:	001
Spiller Contact:	CRAIG SLATER
Spiller Phone:	(716) 853-1616
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	146488
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG 3/3/97 REQUESTED THAT ANGELA DEMERLE SEND A COPY OF THE PHASE II ASSESSMENT. SHE AGREED AND SAID THAT THE OWNER IS LOOKING FOR BIDS TO COMPLETE THE REMOVAL OF 2 UST'S & ASSOCIATED CONTAMINATION. 3/11/97 SPOKE TO CRAIG SLATER. REQUESTED A COPY OF THE PHASE II AGAIN. HE SAID HE WILL PUT IT IN THE MAIL TOMORROW. HE WAS UNSURE AS TO WHO THE OWNER OF THE PROPERTY WAS. HE SAID TO SEND LETTERS TO CAMAIR. 3/12/97 SPOKE TO M. ARNO. HE SAID THAT 757 E FERRY INC. OWNS THE PROPERTY AND HE IS THE PRESIDENT OF THAT COMPANY. HE IS HIRING HORIZON ENVRL TO REMOVE UST'S. HE SAID THEY HAVE ALREADY UNCOVERED THE UST'S AND WILL DISPOSE OF THE WATERS AT THE BSA. HE HAS ALREADY OBTAINED A PERMIT FROM BSA FOR THIS ACTIVITY. HE WILL COLLECT SAMPLES FROM THE EXCAVATION FOR ANALYSIS. 3/12/97 LETTER SENT REQUESTING SITE CLEANUP & UST REMOVAL AS WELL AS EXCAVATION SAMPLE COLLECTION. RESPONSE DUE 4/4/97 3/19/97 RECEIVED PHASE II REPORT FOR THE SITE. TANK WATERS ARE ABOVE STARS. 3/24/97 SITE VISIT. MET MICHAEL ARNO. HE SHOWED ME LOCATION OF USTS ON SITE. HE IS WAITING FOR BSA TO APPROVE THE DISCHARGE OF THE WATERS TO THE SEWER. HE EXPECTS TO START WORK IN APPROX 2 WEEKS. 4/8/97 MR. ARNO CALLED STATING THAT WORK IS TO BEGIN SOME TIME THIS WEEK. HE WILL LET ME KNOW WHEN THEY START. HE JUST RECEIVED APPROVAL TO DISCHARGE TO BSA. 4/21/97 MR. ARNO SAID THAT HE WILL DISCHARGE WATER IN USTS AT 9GPM PER THE BSA PERMIT. HE HAS 40,000 GAL OF WATER TO DISCHARGE. HE WILL REMOVE UST'S BY 4/30/97 AND WILL CONTACT ME WHEN HE DOES. 6/6/97 SPOKE TO MIKE ARNO WHO SAID HIS PUMP BROKE SO HE HAS NOT COMPLETED REMOVING WATERS FROM THE UST. HE WILL HAVE THE PUMP REPAIRED AND START WORK BY MONDAY 6/9/97. I TOLD HIM TO CALL AND LET ME KNOW. HE AGREED. 07/01/97: MNP TELECON WITH MIKE ARNO. HE CONFIRMED TANK PULL WAS SCHEDULED FOR 7/9/97, BUT HE ASKED IF TANKS COULD BE FILLED WITH CONCRETE. I SAID OK PROVIDING THE TANKS ARE CLEANED OUT & NO CONTAMINATION PRESENT. SAMPLING UNDER & AROUND THE TANK MUST BE DONE TO CONFIRM NO CONTAMINATION. HE MUST CALL BEFORE PROCEEDING WITH TANK CLOSURE FOR DEC INSPECTION. 7/1/97 JFO SITE VISIT. FOUND CONTAMINATION WHILE UNCOVERING THE TOP OF THE UST'S. SOIL STOCKPILED ON SITE. ADDITIONAL SOIL TO BE REMOVED. UST REMOVAL TO TAKE PLACE ON 7/9/97. 07/09/97: MNP TELECON WITH MR. ARNO. TANK PULL CANCELLED FOR THIS WEEK. I ASKED HIM TO CONTACT FRANCINE GALLEGO WITH NEW DATE. 7/14/97 PHIL BADAME WITH HORIZON CALLED & SAID THAT ANALYTICAL IS BELOW STARS FOR THE EXCAVATION SAMPLES AS WELL AS THE CONTAMINATED SOIL SAMPLES. HE SAID THAT THE UST'S WON'T BE REMOVED AND THE SAMPLES ARE FROM AROUND THE BOTTOM AND ALONG THE SIDES BUT A HOLE WAS NOT CUT THROUGH THE BOTTOM OF THE UST. MR. BADAME SAID HE GOT APPROVAL FOR THIS FROM SOMEONE ELSE IN THIS OFFICE BUT HE DID NOT SAY WHO. HIS INFORMATION ON WHAT WAS TO BE USED IN THE TANKS FOR FILL WAS CONFUSING. I TOLD HIM TO PROVIDE DATA. HE SAID THAT HE MAY START BACKFILLING TODAY. SITE VISIT. EXCAVATION STILL OPEN. USTS HAD BEEN CUT OPEN. NO ONE ON SITE. CALLED MR. BADAME & LEFT A MESSAGE FOR HIM TO RETURN CALL TO CLARIFY ISSUES. 8/21/97 ALL RESULTS SUBMITTED AND SHOW THAT LEVELS ARE BELOW STARS FOR THE SOIL

SECONDARY SERVICES INC (Continued) **1001222861**

Remarks:	PILE AND THE EXCAVATION. THE TANKS WERE CLOSED IN PLACE AND BACKFILLED. NO FURTHER WORK REQUIRED. SITE CAN BE CLOSED. CONTAMINATION AND 2 UST'S (20K) DISCOVERED DURING PHASE II INVESTIGATION

All Materials:

Site ID:	174141
Operable Unit ID:	1045285
Operable Unit:	01
Material ID:	561082
Material Code:	0064A
Material Name:	unknown material
Case No.:	Not reported
Material FA:	Other
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

SPILLS:

Name:	WHITE MATERIAL AT CAMAIR
Address:	757 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9704744 / 1997-07-21
Facility ID:	9704744
Facility Type:	ER
DER Facility ID:	146488
Site ID:	174142
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	D6
SWIS:	1502
Spill Date:	1997-07-21
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	1997-07-21
CID:	999
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Health Department
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	1997-07-21
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1997-07-21
Spill Record Last Update:	1999-10-08
Spiller Name:	MICHAEL ARNO
Spiller Company:	CAMAIR
Spiller Address:	757 EAST FERRY STREET
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	DOH RECEIVE COMPLAINT OF SHITE STUFF BEING DISCHARGED TO LAWN FROM BUILDING TODAY.

SECONDARY SERVICES INC (Continued) **1001222861**

Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG
7/21/97 SITE VISIT. FOUND ROOF DRAINS WHICH LEAD OUT TO THE FRONT OF THE BLDG. NO WHITE MATERIAL DISCHARGING AT THE TIME OF MY VISIT. DID NOTE A WHITE WATER SCUM IN ONE OF THE DRAINS - NATURAL - NO ODOR. SPOKE TO MR. ARNO WHO SAID THE ROOF IS BRAND NEW. NO FURYTHER WORK REQUIRED. SITE CAN BE CLOSED. 07/21/97 CONFIRMED WITH THE DIVISION OF AIR RESOURSES THAT CAMAIR DOES NOT HAVE AIR PERMITS FOR THEIR FACILITY. THEY HAVE A SPRAY PAINTING BOOTH AND A POWDER BOOTH. THE DIVISION OF AIR RESOURCES WILL FOLLOW UP ON THIS ISSUE.

All Materials:

Site ID:	174142
Operable Unit ID:	1048123
Operable Unit:	01
Material ID:	333996
Material Code:	0064A
Material Name:	unknown material
Case No.:	Not reported
Material FA:	Other
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	AIRTEK
Address:	757 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9102304 / 1992-09-03
Facility ID:	9102304
Facility Type:	ER
DER Facility ID:	146488
Site ID:	174140
DEC Region:	9
Spill Cause:	Deliberate
Spill Class:	E6
SWIS:	1502
Spill Date:	1991-05-25
Investigator:	SORGI
Referred To:	Not reported
Reported to Dept:	1991-05-29
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Citizen
Cleanup Ceased:	1992-05-31
Cleanup Meets Std:	True
Last Inspection:	1992-05-31
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1991-05-29
Spill Record Last Update:	1992-09-14
Spiller Name:	Not reported
Spiller Company:	NONE
Spiller Address:	Not reported
Spiller Company:	001

SECONDARY SERVICES INC (Continued) **1001222861**

Contact Name: Not reported
DEC Memo: REMOVED TANKS, POSSIBLE CONTAMINATION, NO NOTIFICATION OR REGISTRATION, OWNER CLOSED PLANT DURING REMOVAL.
Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was MJS 05/29/91: MJS SPOKE TO JOHN OTTO AND CONFIRMED THAT AIRTEK IS NOT A REGISTERED SITE WITH PBS. 05/31/92: MJS SITE INSPECT. ALL BLACKTOP LOOKS UNDISTURBED. NO RECENT ACTIVITY WHERE TANK COULD HAVE BEEN REMOVED. PLANT MANAGER NOT IN TODAY. 09/03/92: NO FURTHER ACTION NEEDED BY SPILL UNIT. MJS TO CLOSE FILE.

All Materials:
Site ID: 174140
Operable Unit ID: 953296
Operable Unit: 01
Material ID: 424828
Material Code: 0009
Material Name: gasoline
Case No.: Not reported
Material FA: Petroleum
Quantity: .00
Units: Not reported
Recovered: .00
Resource Affected: Groundwater
Oxygenate: Not reported

Manifest Facility Information:
EPA ID: NYR000021519
Country: USA
Name: SECONDARY SRVCS
Address: 757 E FERRY ST
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14211
Zip 4: Not reported
Location Address 1: 757 EAST FERRY
Location Address 2: Not reported
Location City,State,Zip: BUFFALO, NY 14211
Location Zip 4: Not reported
Facility Status: Not reported
Total Tanks: Not reported
Code: BP

Mailing:
Mailing Name: SECONDARY SRVCS
Mailing Contact: RUSS VILLA
Mailing Address 1: 757 EAST FERRY
Mailing Address 2: Not reported
Mailing City,State,Zip: BUFFALO, NY 14211
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7168923609

Manifest Data:
Document ID: NJA2803445
Manifest Status: Not reported
Trans1 State ID: 08690

SECONDARY SERVICES INC (Continued) **1001222861**

Year:	1998
Trans2 State ID:	Not reported
Generator Ship Date:	08/14/1998
Trans1 Recv Date:	08/14/1998
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/21/1998
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00350
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	NJA2803456
Manifest Status:	Not reported
Trans1 State ID:	08690
Year:	1998
Trans2 State ID:	H10364
Generator Ship Date:	09/28/1998
Trans1 Recv Date:	09/28/1998
Trans2 Recv Date:	09/30/1998
TSD Site Recv Date:	10/02/1998
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	ILD984908202

SECONDARY SERVICES INC (Continued) **1001222861**

Trans2 EPA ID:	SCD987574647
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00325
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	03/26/2015
Trans1 Recv Date:	03/26/2015
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	04/02/2015
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ILD980613913
TSDF ID 2:	Not reported
Manifest Tracking Number:	004651978SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N

SECONDARY SERVICES INC (Continued) **1001222861**

Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H020
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	BENZENE
Waste Code f:	METHYL ETHYL KETONE
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	10
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000050930
Year:	2018
Trans2 State ID:	NJD071629976
Generator Ship Date:	08/27/2010
Trans1 Recv Date:	08/27/2010
Trans2 Recv Date:	09/01/2010
TSD Site Recv Date:	09/09/2010
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	001984907SKS
Import Indicator:	N

SECONDARY SERVICES INC (Continued) **1001222861**

Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061
Waste Code a:	IGNITABLE WASTE
Waste Code b:	BARIUM
Waste Code c:	CADMIUM
Waste Code e:	CHROMIUM
Waste Code f:	LEAD
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	450
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	OHD017730540
Generator Ship Date:	03/12/2015
Trans1 Recv Date:	03/12/2015
Trans2 Recv Date:	03/17/2015
TSD Site Recv Date:	03/26/2015
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	004733074SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061

SECONDARY SERVICES INC (Continued) **1001222861**

Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	BARIUM
Waste Code f:	CADMIUM
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	400
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	OHD017730540
Generator Ship Date:	03/09/2015
Trans1 Recv Date:	03/09/2015
Trans2 Recv Date:	03/17/2015
TSD Site Recv Date:	03/29/2015
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ARD069748192
TSDF ID 2:	Not reported
Manifest Tracking Number:	004733063SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N

SECONDARY SERVICES INC (Continued) **1001222861**

Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H040
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	IGNITABLE WASTE
Waste Code c:	METHYL ETHYL KETONE
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	100
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	06/21/2013
Trans1 Recv Date:	06/21/2013
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/03/2013
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ILD980613913
TSDF ID 2:	Not reported
Manifest Tracking Number:	003225283SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported

SECONDARY SERVICES INC (Continued) **1001222861**

MGMT Method Type Code:	H020
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	BENZENE
Waste Code f:	METHYL ETHYL KETONE
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	20
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	MAD039322250
Generator Ship Date:	02/26/2015
Trans1 Recv Date:	02/26/2015
Trans2 Recv Date:	03/04/2015
TSD Site Recv Date:	03/05/2015
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ILD980613913
TSDF ID 2:	Not reported
Manifest Tracking Number:	004415951SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N

SECONDARY SERVICES INC (Continued) **1001222861**

Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H020
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	BENZENE
Waste Code f:	METHYL ETHYL KETONE
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	15
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	OHD017730540
Generator Ship Date:	02/26/2015
Trans1 Recv Date:	02/26/2015
Trans2 Recv Date:	03/03/2015
TSD Site Recv Date:	03/21/2015
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	004733030SKS

SECONDARY SERVICES INC (Continued) **1001222861**

Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	P-CRESOL
Waste Code f:	CADMIUM
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	300
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	MAD039322250
Generator Ship Date:	04/14/2016
Trans1 Recv Date:	04/14/2016
Trans2 Recv Date:	04/21/2016
TSD Site Recv Date:	05/04/2016
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519

SECONDARY SERVICES INC (Continued) **1001222861**

Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	ILD980613913
TSDF ID 2:	Not reported
Manifest Tracking Number:	005411928SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H020
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	BENZENE
Waste Code f:	CHLOROFORM
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	10
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	1
Document ID:	Not reported
Manifest Status:	Not reported
Trans1 State ID:	TXR000081205
Year:	2018
Trans2 State ID:	MAD039322250
Generator Ship Date:	04/14/2016
Trans1 Recv Date:	04/14/2016

SECONDARY SERVICES INC (Continued) **1001222861**

Trans2 Recv Date:	04/21/2016
TSD Site Recv Date:	05/03/2016
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYR000021519
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	KYD053348108
TSDF ID 2:	Not reported
Manifest Tracking Number:	005330421SKS
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H061
Waste Code a:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code b:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code c:	IGNITABLE WASTE
Waste Code e:	BARIUM
Waste Code f:	CADMIUM
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	400
Units:	Pounds
Number of Containers:	1
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

SECONDARY SERVICES INC (Continued) **1001222861**

Click this hyperlink while viewing on your computer to access
214 additional NY MANIFEST: record(s) in the EDR Site Report.

N58 **TEXAS GAS CONVENIENT MARKET** **UST FINDER** **1028596528**
NW **473 E DELAVAN AVE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.229 mi.
1207 ft. **Site 1 of 3 in cluster N**

Relative:
Higher

Actual:
646 ft.

UST FINDER:

Object ID:	315984
Facility ID:	NY52962
Name:	TEXAS GAS CONVENIENT MARKET
Address:	473 E DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14211
Address Match Type:	Not reported
Open USTs:	3
Closed USTs:	2
TOS USTs:	0
Population 1500ft:	799
Private Wells 1500ft:	0
Within 100yr Floodplain:	No
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Facility Status:	Open UST(s)
Date of Last Inspection:	Not reported
EPA Region:	2
Tribe:	Not reported
Coordinate Source:	State
X Coord:	-78.839553
Y Coord:	42.9214650000001
Latitude:	42.921465
Longitude:	-78.839553

UST FINDER:

Object ID:	1307257
Facility ID:	NY52962
Tank ID:	NY96035
Tank Status:	Closed
Installation Date:	1971/10/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	2000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1307258
Facility ID:	NY52962
Tank ID:	NY96034

TEXAS GAS CONVENIENT MARKET (Continued) **1028596528**

Tank Status:	Closed
Installation Date:	1971/10/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	2000
Substances:	Not reported
Tank Wall Type:	Not reported
Object ID:	1307259
Facility ID:	NY52962
Tank ID:	NY95021
Tank Status:	Open
Installation Date:	1971/10/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	10000
Substances:	Not reported
Tank Wall Type:	Not reported
Object ID:	1307260
Facility ID:	NY52962
Tank ID:	NY90890
Tank Status:	Open
Installation Date:	1971/10/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	10000
Substances:	Not reported
Tank Wall Type:	Not reported
Object ID:	1307261
Facility ID:	NY52962
Tank ID:	NY90864
Tank Status:	Open
Installation Date:	1989/11/01 15:59:59+00
Removal Date:	Not reported
Tank Capacity:	3000
Substances:	Not reported
Tank Wall Type:	Not reported

N59 **473 EAST DELAVAN CORP** **NY LTANKS** **S100119838**
NW **473 EAST DELAVAN AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY**
0.229 mi.
1207 ft. **Site 2 of 3 in cluster N**

Relative: **Higher**

Actual: **646 ft.**

LTANKS:

Name:	473 EAST DELAVAN CORP
Address:	473 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8904709 / 2004-05-10
Facility ID:	8904709
Site ID:	149210
Spill Date:	1989-08-01
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	C3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	SACALAND

473 EAST DELAVAN CORP (Continued) **S100119838**

Referred To:	Not reported
Reported to Dept:	1989-08-10
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	DEC
Last Inspection:	2003-01-14
Recommended Penalty:	False
Meets Standard:	False
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1989-08-15
Spill Record Last Update:	2004-05-10
Spiller Name:	Not reported
Spiller Company:	AMERIMART DEVELOPMENT COR
Spiller Address:	1066 SHERIDAN DRIVE
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	126949
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 02/02/89: JDC LEFT MESSAGE FOR MR BRIER TO FORWARD BAILING RESULTS FOR JANUARY 90'. 08/15/89: JDC WILL CONTACT SPILLER AND REQUEST RECOVERY SYSTEM BE INSTALLED TO REMOVE PRODUCT. 08/31/89: WELLS TO BAILED FOR PRODUCT FROM 8/31/89 TO 09/07/89 BY MR BRIER. BAILING RECORD TO BE SUMMITED FOR REVIEW. 09/12/89: MET W/ MR BRIER ON SITE. NORTH WELL 1/2 INCH PRODUCT, SOUTH WELL DRY. REQUESTED PUMPING OF WELL W/ MONITORING REPORTS TO BE KEPT TO MONITOR PROGRESS. 10/25/89: JDC ON SITE W/ MR BRIER. EXCAVATION FOR NEW KEROSENE TANK NEAR EXSISTING MONITORING WELL SHOWD NO PRODUCT. DEPTH OF EXCAVATION WAS APPROXIMATELY 10 FEET. NEW WELL WILL BE PLACED IN EXCAVATION. 02/28/90: JDC BAILED NORTH WELL AND RECOVERED 1/4 INCH OF PRODUCT. DRAFTED LETTER TO MR BRIER REQUESTING INVENTORY RECORDS OF BAILINGS AND CLEANUP OF CONTAMINATED WELL. 12/11/90: MJH SENT LETTER 12/10/90 REQUESTING UPDATED STATUS REPORT. 06/13/91: JDC INSPECTED WELLS AND FOUND PETROLEUM LAYER. WAITING FOR STATUS REPORT FROM MR GIERGER. 10/04/91: JDC DRAFTED LETTER TO MR BRIER REQUESTING REMEDIAL STATUS. . 07/19/92: JDC INSPECTED SITE AND FOUND THIN LAYER OF PRODUCT IN WELL. WILL DRAFT LETTER REQUESTING REMEDIAL ACTION. 11/04/93: JDC/MR. BRIER/TELECON - REQUESTED THAT MW BE SAMPLED UNDER 8021. HE AGREED TO HAVE SAMPLE DONE. 05/13/94: JDC SENT LETTER REQUESTING SAMPLING, RESPONSE DATE 6/13/94. 06/13/94: JDC LEFT MESSAGE FOR RP TO UPDATE ON STATUS PER 5/13/94 LETTER. 06/14/94: JDC TELCON W/ MR GEIGER, NATURE,S WAY TO DO GW SAMPLING. CK BK 7/30/94. 06/14/94: JDC ON SITE, OBSERVED STEVE FROM NATURE'S WAY BAIL WELL AND COLLECT WATER SAMPLE OF TWO 40ML VIALS AND ONE 1LITER JAR. CK BK 7/15/94. 08/23/94: 8021 RESULTS DATED6/14/94 INDICATE VIOLATION OF GW STANDARDS. SENT LETTER REQUESTING GW TREATMENT VIA PUMP AND TREAT. CK BK 9/21/944. 02/27/95: SENT REMINDER LETTER NO RESPONSE. CK BK 3/13/95. 1/4/96: JDC LEFT VOICE MAIL FOR RP REQUESTING GW SAMPLING AND SITE REMEDIATION PLAN. 2/19/96: NO RESPONSE FROM RP REGARDING SITE REMEDIATION PLAN. WILL INITIATE LEGAL ACTION. 8/13/96: JDC ON SITE AND FOUND NO ACTIVITY. UNABLE TO BAIL WELL FOR CONTENT. WILL INITIATE LEGAL ACTION. 11/15/96: MET W/ TWO PROSPECTIVE BUYERS MR MOHAMAD GALAB AND MR GMAL AHMED OF 2244 SENECA ST, BUFFALO, NY, PH. 826-2723 THEY WILL CONSIDER DOING SITE INVESTIGATION/ CLEANUP AT THE PROPERTY. CURRENTLY

473 EAST DELAVAN CORP (Continued) **S100119838**

NEGOTIATING WITH MR BRIER TO PURCHASE THE PROPERTY WITH CLEANUP CONDITIONS. TO DATE THEY HAVE BEEN DOING SOME SITE RESTORATION. JDC EXPLAINED CURRENT SITE STATUS WITH CLEANUP REQUIREMENTS. RECOMMENDED THEY DO TANK TESTING AND SITE SURVEY TO DETERMINE CONTAMINATION EXTENT BASED ON CURRENT SITE DATA. THEY WILL CONTINUE NEGOTIATIONS W/ MR BREIER AND ADVISE DEC OF PURCHASE STATUS. 12/2/96: JDC TELCON W/ MR GMAL AHMED, HE STATED THAT HIS ATTORNEY HAS SENT PURCHASE PROPOSAL TO MR BRIER. BASIC ELEMENTS ARE THAT MR BRIER WILL HOLD MORTGAGE WITH AN ADJUSTMENT IN THE TOTAL PURCHASE PRICE FORE CLEANUP COSTS. MR AHMED STATED THAT HE AND HIS ASSOCIATE, MR GALAB WOULD INITIATE SITE REMEDIATION REQUIREMENTS AS STATED IN PREVIOUS CORRESPONDANCE TO MR BRIER IF PROPOSAL IS ACCEPTED. HE WILL NOTIFY 12/5/96: DRAFTED SHORT ORDER CONSENT AGAINST MR JAMES BRIER. 3/29/97: JDC RESUBMITTED LEGAL SHORT ORDER CONSENT, INITIAL WAS NOT PROCESSED. 11/19/02:AES, SAC INSPECT SITE, 2 MONITORING WELLS FOUND ON-SITE AND A NEW PUMP ISLAND CANOPY WAS INSTALLED, MR. HAROLD GEIGER CAME TO THE SITE, SAC TOLD HIM ABOUT OPEN SPILL, MR. GEIGER SAID HE WAS UNAWARE OF SPILL, SAC TOLD HIM SITE ASSESSMENT IS REQUIRED, WILL FOLLOW UP W/LETTER REQUIRING SITE ASSESSMENT IN A MONTH OR SITE WILL BE REFERRED TO LEGAL DEPARTMENT. 11/21/02:SAC DISCUSS SITE W/PJB, PJB REQUESTED WELLS BE SAMPLED FIRST TO DETERMINE IF PRODUCT REMAINS IN WELL AND TO HAVE WELLS SAMPLED AND ANALYZED, BASED ON RESULTS FURTHER WORK MAYBE REQUIRED, IF NO SAMPLING TAKES PLACE THEN SITE WILL BE REFERED TO LEGAL AFFAIRS. 11/22/02:DRAFTED LETTER REQUIRING SAMPLING AND ANALYZING OF THE WELLS, RESULTS MUST BE RECEIVED BY JANUARY 15, 2003 OR WE REFER SITE TO LEGAL AFFAIRS. 12/17/02:SAC TELECON HAROLD GEIGER, MR. GEIGER SAID THAT HE IS GOING TO CONTACT UPSTATE LABORAOTRIES TO TAKE SAMPLES, HE AGREED TO CONTACT SAC WHEN SAMPLES WILL BE TAKEN AND HE WILL BE PRESENT ALSO. 1/14/03:SAC INSPECT SITE, MET W/HAROLD GEIGER AND SCOTT OVERHOFF - HAZARD EVALUATIONS WHO WAS HIRED TO SAMPLE THE WELLS, BOTH WELLS DID NOT HAVE SEPARATE PHASE PRODUCT, WATER IN BOTH WELLS DID HAVE INTERMITTENT VERY SLIGHT STRINGY SHEEN, WELL NEAREST THE KEROSENE TANK HAD STRONG STALE/SEWER TYPE ODORS, NO ODORS OBSERVED IN WELL NEAREST THE CORNER. 2/17/03:SAC TELECON SCOTT OVERHOFF - HAZARD EVALUATIONS, MR. OVERHOFF RECEIVED ANALYTICAL RESULTS FROM SAMPLING AND IS WAITING FOR APPROVAL FROM MR. GEIGER TO SEND THEM INTO TO DEC, SAC TELECON HAROLD GEIGER, MR. GEIGER WAS UNAWARE THAT SAMPLE RESULTS WERE NOT SENT TO DEC AND WILL CALL HAZARD EVALUATIONS TO APPROVE HAVING THE RESULTS SENT TO DEC, SAC DRAFTED LETTER REQUIRING RESULTS BY 2/28/03. 2/18/03:SAC TELECON SCOTT OVERHOFF, HE SPOKE TO MR. GEIGER AND HE WILL BE SENDING IN A COPY OF THE RESULTS FROM THE WELL SAMPLING. 2/20/03:RECEIVED COPY OF RESULTS FROM WELL SAMPLING, THE RESULTS OF THE SOUTH WELL ARE ABOVE GROUNDWATER STANDARDS AND THE TOTAL 8260 STARS PARAMETERS ARE ALMOST 11000 ppb WITH A TOLUENE CONCENTRATION OF 9700 ppb, DRAFTED LETTER REQUIRING WORKPLAN BY 4/15/03. 4/2/03:SAC MET W/HAROLD GEIGER, MR. GEIGER REQUESTED THAT HE ONLY TREAT THE WELL, SAC AGREED TO ALLOW THIS AS A FIRST APPROACH, MR. GEIGER WILL CONTACT SCOTT OVERHOFF TO DEVELOP WORKPLAN AND DO THE WORK. 4/16/03:RECEIVED WORKPLAN FROM ENSOL TO BIOTREAT THE WELLS ON-SITE THROUGH FOUR INJECTIONS. 8/27/03:RECEIVED FIELD REPORTS FOR THE BIOTREATMENT OF THE WELLS. 10/30/03:RECEIVED RESULTS OF SAMPLING AFTER BIO-TREATMENT, LEVELS IN WELLS HAVE DECREASED, NORTH WELL HAD LEVEL OF 3.07 ug/l FOR VOLATILES AND 29.2 ug/l FOR MTBE, SOUTH WELL LEVEL WAS ND AND 3.04 ug/l FOR MTBE. 11/10/03:DRAFTED LETTER REQUIRING ADDITIONAL SAMPLING OF WELLS NEXT SPRING. 4/22/04:RECEIVED SECOND ROUND OF WELL SAMPLING. 5/10/04:REVIEWED 2ND ROUND OF SAMPLING, RESULTS WERE BELOW GW

473 EAST DELAVAN CORP (Continued) **S100119838**

STANDARDS EXCEPT FOR MTBE ON A LOW LEVEL, NO FURTHER WORK REQUIRED, DRAFTED I LETTER.

Remarks: UNDERGROUND TANKS REMOVED W/ CONTAMINATION PRESENT IN THE EXCAVATION. MONITORING WELL TO THE NORTH HAS SEVERAL INCHES OF PRODUCT IN IT.

All Materials:

Site ID:	149210
Operable Unit ID:	932312
Operable Unit:	01
Material ID:	448743
Material Code:	0012A
Material Name:	kerosene
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

N60 **JAWANI EXPRESS LLC** **NY UST** **U001851696**
NW **473 E DELAVAN AVE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.229 mi.
1207 ft. **Site 3 of 3 in cluster N**

Relative:
Higher

Actual:
646 ft.

UST:

Name:	JAWANI EXPRESS LLC
Address:	473 E DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14211
Id/Status:	9-221090 / Active
Program Type:	PBS
Region:	STATE
DEC Region:	9
Expiration Date:	10/11/2024
UTM X:	186628.59523
UTM Y:	4759243.69650
Site Type:	Retail Gasoline Sales

Affiliation Records:

Site Id:	52962
Affiliation Type:	Facility Owner
Company Name:	ALWAZEER ALGAWANI
Contact Type:	OWNER
Contact Name:	ALWAZEER ALGAWANI
Address1:	473 EAST DELAVAN AVE.
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14213
Country Code:	001
Phone:	(716) 316-1325
EMail:	Not reported
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2021-06-29

Site Id: 52962

JAWANI EXPRESS LLC (Continued) **U001851696**

Affiliation Type:	Facility Operator
Company Name:	JAWANI EXPRESS LLC.
Contact Type:	Not reported
Contact Name:	ALWAZEER ALGAWANI
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	001
Phone:	(716) 894-1232
EMail:	Not reported
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2021-06-29

Site Id:	52962
Affiliation Type:	Mail Contact
Company Name:	JAWANI EXPRESS LLC
Contact Type:	Not reported
Contact Name:	ALWAZEER ALGAWANI
Address1:	91 FRANKLIN ST.
Address2:	Not reported
City:	LACKAWANNA
State:	NY
Zip Code:	14218
Country Code:	001
Phone:	(716) 894-1318
EMail:	JAWANIEXPRESS@GMAIL.COM
Fax Number:	Not reported
Modified By:	PTDIEZ
Date Last Modified:	2021-07-08

Site Id:	52962
Affiliation Type:	Emergency Contact
Company Name:	ALWAZEER ALGAWANI
Contact Type:	Not reported
Contact Name:	AHMED ALGAWANI
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(716) 316-1325
EMail:	Not reported
Fax Number:	Not reported
Modified By:	PTDIEZ
Date Last Modified:	2023-02-02

Tank Info:

Tank Number:	1
Tank ID:	163283
Tank Status:	In Service
Material Name:	In Service
Capacity Gallons:	10000

JAWANI EXPRESS LLC (Continued) **U001851696**

Install Date:	10/01/1971
Date Tank Closed:	Not reported
Registered:	True
Tank Location:	Underground
Tank Type:	Fiberglass coated steel
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	34
Date Test:	03/10/2021
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

E04 - Piping Secondary Containment - Double walled UG
H04 - Tank Leak Detection - Groundwater Well
J01 - Dispenser - Pressurized Dispenser
K01 - Spill Prevention - Catch Basin
B04 - Tank External Protection - Fiberglass
D08 - Pipe Type - Equivalent Technology
L07 - Piping Leak Detection - Pressurized Piping Leak Detector
I03 - Overfill - Automatic Shut-Off
A03 - Tank Internal Protection - Fiberglass Liner (FRP)
F06 - Pipe External Protection - Wrapped
G00 - Tank Secondary Containment - None
C02 - Pipe Location - Underground/On-ground

Tank Number:	2
Tank ID:	163284
Tank Status:	In Service
Material Name:	In Service
Capacity Gallons:	10000
Install Date:	10/01/1971
Date Tank Closed:	Not reported
Registered:	True
Tank Location:	Underground
Tank Type:	Fiberglass coated steel
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	34
Date Test:	03/10/2021
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

J01 - Dispenser - Pressurized Dispenser
E04 - Piping Secondary Containment - Double walled UG
H04 - Tank Leak Detection - Groundwater Well
K01 - Spill Prevention - Catch Basin
D08 - Pipe Type - Equivalent Technology
B04 - Tank External Protection - Fiberglass
L07 - Piping Leak Detection - Pressurized Piping Leak Detector

JAWANI EXPRESS LLC (Continued) **U001851696**

I03 - Overfill - Automatic Shut-Off
A03 - Tank Internal Protection - Fiberglass Liner (FRP)
C02 - Pipe Location - Underground/On-ground
F06 - Pipe External Protection - Wrapped
G00 - Tank Secondary Containment - None

Tank Number: 3
Tank ID: 163285
Tank Status: Closed Prior to Micro Conversion, 03/91
Material Name: Closed Prior to Micro Conversion, 03/91
Capacity Gallons: 2000
Install Date: 10/01/1971
Date Tank Closed: Not reported
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Material Code: 0001
Common Name of Substance: #2 Fuel Oil (On-Site Consumption)

Tightness Test Method: NN
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

F00 - Pipe External Protection - None
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
H00 - Tank Leak Detection - None
I00 - Overfill - None
A00 - Tank Internal Protection - None
G00 - Tank Secondary Containment - None
J02 - Dispenser - Suction Dispenser

Tank Number: 4
Tank ID: 163286
Tank Status: Closed Prior to Micro Conversion, 03/91
Material Name: Closed Prior to Micro Conversion, 03/91
Capacity Gallons: 2000
Install Date: 10/01/1971
Date Tank Closed: Not reported
Registered: True
Tank Location: Underground
Tank Type: Steel/carbon steel
Material Code: 0001
Common Name of Substance: #2 Fuel Oil (On-Site Consumption)

Tightness Test Method: NN
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

JAWANI EXPRESS LLC (Continued) **U001851696**

Equipment Records:

B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
I00 - Overfill - None
H00 - Tank Leak Detection - None
A00 - Tank Internal Protection - None
J02 - Dispenser - Suction Dispenser
G00 - Tank Secondary Containment - None

Tank Number:	5
Tank ID:	163287
Tank Status:	In Service
Material Name:	In Service
Capacity Gallons:	3000
Install Date:	11/01/1989
Date Tank Closed:	Not reported
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	2722
Common Name of Substance:	Kerosene [#1 Fuel Oil] (Resale/Redistribute)
Tightness Test Method:	34
Date Test:	03/10/2021
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

G04 - Tank Secondary Containment - Double-Walled (Underground)
H02 - Tank Leak Detection - Interstitial - Manual Monitoring
E04 - Piping Secondary Containment - Double walled UG
B02 - Tank External Protection - Original Sacrificial Anode
K01 - Spill Prevention - Catch Basin
L09 - Piping Leak Detection - Exempt Suction Piping
F02 - Pipe External Protection - Original Sacrificial Anode
I03 - Overfill - Automatic Shut-Off
D01 - Pipe Type - Steel/Carbon Steel/Iron
A00 - Tank Internal Protection - None
J02 - Dispenser - Suction Dispenser
C02 - Pipe Location - Underground/On-ground
F06 - Pipe External Protection - Wrapped

O61 **COLSTON'S MOBIL** **UST FINDER RELEASE** **1029078636**
SSW **1507 FILLMORE EAST FERRY** **N/A**
1/8-1/4 **BUFFALO, NY 0**
0.230 mi.
1212 ft. **Site 1 of 11 in cluster O**

Relative: **Lower**
Actual: **636 ft.**

UST FINDER RELEASE:

Object ID:	244088
Facility ID:	NY82295
Lust ID:	NY9406004
Name:	COLSTON'S MOBIL

COLSTON'S MOBIL (Continued) **1029078636**

Address:	1507 FILLMORE EAST FERRY
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1994/08/02 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1674
Domestic Wells within 1500ft:	0
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8390899999999
Y Coord:	42.91481
Latitude:	42.91481
Longitude:	-78.8390899999999

O62 **FERRY EXPRESS 5** **UST FINDER** **1028597964**
SSW **1507 FILLMORE AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.230 mi.
1212 ft. **Site 2 of 11 in cluster O**

Relative: **Lower**

Actual: **636 ft.**

UST FINDER:

Object ID:	315872
Facility ID:	NY54364
Name:	FERRY EXPRESS 5
Address:	1507 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY 14211
Address Match Type:	Not reported
Open USTs:	3
Closed USTs:	8
TOS USTs:	0
Population 1500ft:	1564
Private Wells 1500ft:	0
Within 100yr Floodplain:	No
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported

FERRY EXPRESS 5 (Continued) **1028597964**

Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Facility Status:	Open UST(s)
Date of Last Inspection:	Not reported
EPA Region:	2
Tribe:	Not reported
Coordinate Source:	State
X Coord:	-78.838743
Y Coord:	42.9150220000001
Latitude:	42.915022
Longitude:	-78.838743

UST FINDER:

Object ID:	1311667
Facility ID:	NY54364
Tank ID:	NY94034
Tank Status:	Closed
Installation Date:	1981/05/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	6000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1311668
Facility ID:	NY54364
Tank ID:	NY94308
Tank Status:	Closed
Installation Date:	1989/06/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	10000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1311669
Facility ID:	NY54364
Tank ID:	NY94502
Tank Status:	Closed
Installation Date:	Not reported
Removal Date:	Not reported
Tank Capacity:	550
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1311670
Facility ID:	NY54364
Tank ID:	NY96411
Tank Status:	Closed
Installation Date:	1981/05/01 16:00:00+00
Removal Date:	Not reported
Tank Capacity:	2000
Substances:	Not reported
Tank Wall Type:	Not reported

Object ID:	1311671
Facility ID:	NY54364

FERRY EXPRESS 5 (Continued) **1028597964**

Tank ID: NY98565
Tank Status: Closed
Installation Date: 1981/05/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 6000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1311672
Facility ID: NY54364
Tank ID: NY98566
Tank Status: Closed
Installation Date: 1981/05/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 8000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1311673
Facility ID: NY54364
Tank ID: NY98567
Tank Status: Closed
Installation Date: 1981/05/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 10000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1311674
Facility ID: NY54364
Tank ID: NY99696
Tank Status: Closed
Installation Date: 1989/06/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 10000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1311675
Facility ID: NY54364
Tank ID: NY94035
Tank Status: Open
Installation Date: 2010/12/01 15:59:59+00
Removal Date: Not reported
Tank Capacity: 14000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1311676
Facility ID: NY54364
Tank ID: NY94503
Tank Status: Open
Installation Date: 2010/12/01 15:59:59+00
Removal Date: Not reported
Tank Capacity: 10000
Substances: Not reported
Tank Wall Type: Not reported

FERRY EXPRESS 5 (Continued) **1028597964**

Object ID:	1311677
Facility ID:	NY54364
Tank ID:	NY99697
Tank Status:	Open
Installation Date:	2010/12/01 15:59:59+00
Removal Date:	Not reported
Tank Capacity:	4000
Substances:	Not reported
Tank Wall Type:	Not reported

O63 **COLSTON'S MOBIL** **NY LTANKS** **S101174744**
SSW **1507 FILLMORE EAST FERRY** **N/A**
1/8-1/4 **BUFFALO, NY**
0.230 mi.
1212 ft. **Site 3 of 11 in cluster O**

Relative: **Lower**
Actual: **636 ft.**

LTANKS:

Name:	COLSTON'S MOBIL
Address:	1507 FILLMORE EAST FERRY
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9406004 / 1995-11-14
Facility ID:	9406004
Site ID:	91509
Spill Date:	1994-08-02
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	B3
Cleanup Ceased:	1995-11-14
SWIS:	1502
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	1994-08-02
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	1995-09-01
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1994-08-11
Spill Record Last Update:	2002-03-15
Spiller Name:	SHERRILL COLSTON
Spiller Company:	COLSTON'S MOBIL
Spiller Address:	1507 FILLMORE AVENUE
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	82295
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG 08/02/94: 8/2/94 MNP INSP. 6K TANK REMOVED & EXCAVATION BACKFILLED, TANK PIT SAMPLES ALREADY COLLECTED. TO REMOVE 2 FIBERGLASS TANKS TOMORROW. TOLLNER TO CALL FOR DEC INSP. BEFORE BACKFILLING. 03/24/95: REQUESTED RESPONSE TO 8/18/95 LTR BY 4/5/95. 03/29/95: MR. COLSTON CAME TO OFFICE. BROUGHT MOBIL LTR & SOIL PILE ANALYSIS. REQUESTING

COLSTON'S MOBIL (Continued) **S101174744**

MOBIL TO PAY FOR SOIL REMOVAL. K&T TO SEND ANALYSIS FROM TANK EXCAV. 04/11/95: 8021 FROM TANK EXCAV SUBMITTED. ALL CLEAN EXCEPT 6K COMPOSITE WHICH IS 42PPM. K&T TO CHECK IF ANY LAB ERROR & WILL GET BACK BY 4/18/95. 05/09/95: SITE VISIT 5/9/95. LOOKING INTO BIOREM OR DISPOSAL. MR. COLSTON WILL CLARIFY HIGH RESULTS. G. TOLLNER TOLD HIM RESULTS WERE MESSED UP. 06/13/95: JFO SITE VISIT. MET MR. COLSTON. SOIL PILE TO BE STAGED & BIOREMEDIATED. ROCKS REMOVED FROM PILE. MR. COLSTON TO KEEP THIS OFFICE UPDATED ON STATUS OF REMEDIATION. 07/26/95: SITE VISIT 7/26/95. SOIL HAD BEEN SET UP FOR BIO. MR. COLSTON HAD TREATED IT WITH NUTRIENTS. 07/27/95: MR. COLSTON CALLED& WILL SAMPLE SOIL PILE IN AUGUST FOR 8021 & CONTINUE TO TREAT THE SOIL. HE TURNS IT EVERY WEEK. 09/01/95: SITE VISIT 9/1/95. MR. COLSTON HAS TURNED SOIL REGULARLY. HE PLANS ON SAMPLING THE SOIL FOR 8021 & WILL BE USING A LAB USED BY K&T. MR. COLSTON WILL SUBMIT RESULTS. 09/26/95: SPOKE TO S. COLSTON. ANALYSIS IS FOR 8020. WE NEED 8021. HE WILL RESAMPLE FOR 8021 & COLLECT TWO SAMPLES. 11/14/95 RECD SOIL SAMPLE RESULTS FROM BIO PILE - ALL BELOW STARS. EXCAV RESULTS BELOW STARS. SITE CAN BE CLOSED.

Remarks: TANK REMOVAL CONTRACTOR REPORTED SOIL CONTAMINATION.

All Materials:

Site ID:	91509
Operable Unit ID:	1000252
Operable Unit:	01
Material ID:	379047
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

O64 **FERRY EXPRESS 5** **NY UST** **U003318251**
SSW **1507 FILLMORE AVENUE** **N/A**
1/8-1/4 **BUFFALO, NY 14211**
0.230 mi.
1212 ft. **Site 4 of 11 in cluster O**

Relative: **Lower**
Actual: **636 ft.**

UST:

Name:	FERRY EXPRESS 5
Address:	1507 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY 14211
Id/Status:	9-441376 / Active
Program Type:	PBS
Region:	STATE
DEC Region:	9
Expiration Date:	12/01/2025
UTM X:	186662.08049
UTM Y:	4758525.12396
Site Type:	Retail Gasoline Sales

Affiliation Records:

Site Id:	54364
Affiliation Type:	Emergency Contact
Company Name:	FERRY EXPRESS

FERRY EXPRESS 5 (Continued) **U003318251**

Contact Type:	Not reported
Contact Name:	FAWAZ KAID
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN
Zip Code:	Not reported
Country Code:	999
Phone:	(716) 818-9775
EMail:	Not reported
Fax Number:	Not reported
Modified By:	VMKREUTZ
Date Last Modified:	2020-11-10

Site Id:	54364
Affiliation Type:	Mail Contact
Company Name:	Not reported
Contact Type:	Not reported
Contact Name:	FAWAZ K. KAID
Address1:	67 LYNN STREET
Address2:	Not reported
City:	LACKAWANNA
State:	NY
Zip Code:	14218
Country Code:	001
Phone:	(716) 818-9775
EMail:	FERRYEXPRESS5@YAHOO.COM
Fax Number:	Not reported
Modified By:	SLZIEMBA
Date Last Modified:	2011-10-05

Site Id:	54364
Affiliation Type:	Facility Owner
Company Name:	FERRY EXPRESS
Contact Type:	OWNER
Contact Name:	FAWAZ K. KAID
Address1:	1507 FILLMORE AVENUE
Address2:	Not reported
City:	BUFFALO
State:	NY
Zip Code:	14211
Country Code:	001
Phone:	(716) 818-9775
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TJWALKER
Date Last Modified:	2014-12-11

Site Id:	54364
Affiliation Type:	Facility Operator
Company Name:	FERRY EXPRESS 5
Contact Type:	Not reported
Contact Name:	FAWZ KAID
Address1:	Not reported
Address2:	Not reported
City:	Not reported
State:	NN

FERRY EXPRESS 5 (Continued) **U003318251**

Zip Code:	Not reported
Country Code:	001
Phone:	(716) 896-1819
EMail:	Not reported
Fax Number:	Not reported
Modified By:	TLRIDNER
Date Last Modified:	2017-02-28

Tank Info:

Tank Number:	1
Tank ID:	178044
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	10000
Install Date:	06/01/1989
Date Tank Closed:	03/31/2005
Registered:	True
Tank Location:	Underground
Tank Type:	Fiberglass coated steel
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	19
Date Test:	07/27/2000
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

G04 - Tank Secondary Containment - Double-Walled (Underground)
C02 - Pipe Location - Underground/On-ground
F04 - Pipe External Protection - Fiberglass
J02 - Dispenser - Suction Dispenser
K01 - Spill Prevention - Catch Basin
B04 - Tank External Protection - Fiberglass
D06 - Pipe Type - Fiberglass Reinforced Plastic (FRP)
H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
I01 - Overfill - Float Vent Valve
A03 - Tank Internal Protection - Fiberglass Liner (FRP)

Tank Number:	1-A
Tank ID:	178045
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	6000
Install Date:	05/01/1981
Date Tank Closed:	08/01/1994
Registered:	True
Tank Location:	Underground
Tank Type:	Equivalent technology
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	NN

FERRY EXPRESS 5 (Continued) **U003318251**

Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

G00 - Tank Secondary Containment - None
J01 - Dispenser - Pressurized Dispenser
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
H00 - Tank Leak Detection - None
I00 - Overfill - None
A00 - Tank Internal Protection - None

Tank Number: 1A
Tank ID: 241165
Tank Status: In Service
Material Name: In Service
Capacity Gallons: 14000
Install Date: 12/01/2010
Date Tank Closed: Not reported
Registered: True
Tank Location: Underground
Tank Type: Equivalent technology
Material Code: 2712
Common Name of Substance: Gasoline/Ethanol

Tightness Test Method: -
Date Test: Not reported
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

D11 - Pipe Type - Flexible Piping
G04 - Tank Secondary Containment - Double-Walled (Underground)
C03 - Pipe Location - Aboveground/Underground Combination
J01 - Dispenser - Pressurized Dispenser
E04 - Piping Secondary Containment - Double walled UG
K01 - Spill Prevention - Catch Basin
B04 - Tank External Protection - Fiberglass
L07 - Piping Leak Detection - Pressurized Piping Leak Detector
I03 - Overfill - Automatic Shut-Off
H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
A00 - Tank Internal Protection - None
F05 - Pipe External Protection - Jacketed

Tank Number: 1B
Tank ID: 241166
Tank Status: In Service
Material Name: In Service
Capacity Gallons: 4000

FERRY EXPRESS 5 (Continued) **U003318251**

Install Date:	12/01/2010
Date Tank Closed:	Not reported
Registered:	True
Tank Location:	Underground
Tank Type:	Equivalent technology
Material Code:	2712
Common Name of Substance:	Gasoline/Ethanol
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

D11 - Pipe Type - Flexible Piping
G04 - Tank Secondary Containment - Double-Walled (Underground)
C03 - Pipe Location - Aboveground/Underground Combination
J01 - Dispenser - Pressurized Dispenser
E04 - Piping Secondary Containment - Double walled UG
K01 - Spill Prevention - Catch Basin
B04 - Tank External Protection - Fiberglass
L07 - Piping Leak Detection - Pressurized Piping Leak Detector
I03 - Overfill - Automatic Shut-Off
H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
A00 - Tank Internal Protection - None
F05 - Pipe External Protection - Jacketed

Tank Number:	2
Tank ID:	178046
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	10000
Install Date:	06/01/1989
Date Tank Closed:	03/31/2005
Registered:	True
Tank Location:	Underground
Tank Type:	Fiberglass coated steel
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	19
Date Test:	07/27/2000
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

G04 - Tank Secondary Containment - Double-Walled (Underground)
J02 - Dispenser - Suction Dispenser
C02 - Pipe Location - Underground/On-ground
F04 - Pipe External Protection - Fiberglass
K01 - Spill Prevention - Catch Basin
B04 - Tank External Protection - Fiberglass
D06 - Pipe Type - Fiberglass Reinforced Plastic (FRP)

FERRY EXPRESS 5 (Continued) **U003318251**

H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
I01 - Overfill - Float Vent Valve
A03 - Tank Internal Protection - Fiberglass Liner (FRP)

Tank Number:	2-A
Tank ID:	178047
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	10000
Install Date:	05/01/1981
Date Tank Closed:	08/01/1994
Registered:	True
Tank Location:	Underground
Tank Type:	Equivalent technology
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

G00 - Tank Secondary Containment - None
B00 - Tank External Protection - None
J01 - Dispenser - Pressurized Dispenser
C00 - Pipe Location - No Piping
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
I00 - Overfill - None
H00 - Tank Leak Detection - None
A00 - Tank Internal Protection - None

Tank Number:	2A
Tank ID:	241167
Tank Status:	In Service
Material Name:	In Service
Capacity Gallons:	10000
Install Date:	12/01/2010
Date Tank Closed:	Not reported
Registered:	True
Tank Location:	Underground
Tank Type:	Equivalent technology
Material Code:	0008
Common Name of Substance:	Diesel
Tightness Test Method:	-
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

FERRY EXPRESS 5 (Continued) **U003318251**

D11 - Pipe Type - Flexible Piping
G04 - Tank Secondary Containment - Double-Walled (Underground)
C03 - Pipe Location - Aboveground/Underground Combination
E04 - Piping Secondary Containment - Double walled UG
J01 - Dispenser - Pressurized Dispenser
B04 - Tank External Protection - Fiberglass
K01 - Spill Prevention - Catch Basin
L07 - Piping Leak Detection - Pressurized Piping Leak Detector
A00 - Tank Internal Protection - None
H01 - Tank Leak Detection - Interstitial - Electronic Monitoring
I03 - Overfill - Automatic Shut-Off
F05 - Pipe External Protection - Jacketed

Tank Number:	3
Tank ID:	167750
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	6000
Install Date:	05/01/1981
Date Tank Closed:	08/01/1994
Registered:	True
Tank Location:	Underground
Tank Type:	Equivalent technology
Material Code:	0009
Common Name of Substance:	Gasoline
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

Equipment Records:

G00 - Tank Secondary Containment - None
D02 - Pipe Type - Galvanized Steel
F00 - Pipe External Protection - None
J01 - Dispenser - Pressurized Dispenser
B00 - Tank External Protection - None
C00 - Pipe Location - No Piping
H00 - Tank Leak Detection - None
I00 - Overfill - None
A00 - Tank Internal Protection - None

Tank Number:	4
Tank ID:	167751
Tank Status:	Closed - Removed
Material Name:	Closed - Removed
Capacity Gallons:	2000
Install Date:	05/01/1981
Date Tank Closed:	03/31/2005
Registered:	True
Tank Location:	Underground
Tank Type:	Equivalent technology
Material Code:	0008
Common Name of Substance:	Diesel

FERRY EXPRESS 5 (Continued) **U003318251**

Tightness Test Method: 19
Date Test: 07/27/2000
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

C02 - Pipe Location - Underground/On-ground
G00 - Tank Secondary Containment - None
D02 - Pipe Type - Galvanized Steel
J01 - Dispenser - Pressurized Dispenser
H00 - Tank Leak Detection - None
K01 - Spill Prevention - Catch Basin
B04 - Tank External Protection - Fiberglass
F07 - Pipe External Protection - Retrofitted Sacrificial Anode
I01 - Overfill - Float Vent Valve
A03 - Tank Internal Protection - Fiberglass Liner (FRP)

Tank Number: 5
Tank ID: 167752
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 8000
Install Date: 05/01/1981
Date Tank Closed: 03/31/2005
Registered: True
Tank Location: Underground
Tank Type: Equivalent technology
Material Code: 0008
Common Name of Substance: Diesel

Tightness Test Method: 19
Date Test: 07/27/2000
Next Test Date: Not reported
Pipe Model: Not reported
Modified By: MJGRIFFI
Last Modified: 05/09/2022

Equipment Records:

C02 - Pipe Location - Underground/On-ground
G00 - Tank Secondary Containment - None
J01 - Dispenser - Pressurized Dispenser
D02 - Pipe Type - Galvanized Steel
K01 - Spill Prevention - Catch Basin
H00 - Tank Leak Detection - None
B04 - Tank External Protection - Fiberglass
F07 - Pipe External Protection - Retrofitted Sacrificial Anode
I01 - Overfill - Float Vent Valve
A03 - Tank Internal Protection - Fiberglass Liner (FRP)

Tank Number: 6
Tank ID: 206584
Tank Status: Closed - Removed
Material Name: Closed - Removed
Capacity Gallons: 550

FERRY EXPRESS 5 (Continued) **U003318251**

Install Date:	Not reported
Date Tank Closed:	03/31/2005
Registered:	True
Tank Location:	Underground
Tank Type:	Steel/carbon steel
Material Code:	0000
Common Name of Substance:	Empty
Tightness Test Method:	NN
Date Test:	Not reported
Next Test Date:	Not reported
Pipe Model:	Not reported
Modified By:	MJGRIFFI
Last Modified:	05/09/2022

O65 **EXXONMOBIL OIL CORPORATION 11333** **RCRA NonGen / NLR** **1010328161**
SSW **1507 FILMORE AVE** **NYR000141820**
1/8-1/4 **BUFFALO, NY 14211**
0.230 mi.
1212 ft. **Site 5 of 11 in cluster O**

Relative: **Lower**

Actual: **636 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Exxonmobil Oil Corporation 11333
Handler Address:	FILMORE AVE
Handler City,State,Zip:	BUFFALO, NY 14211-1111
EPA ID:	NYR000141820
Contact Name:	DALE VIATOR
Contact Address:	NORTHCHASE DR ROOM 538
Contact City,State,Zip:	HOUSTON, TX 77060
Contact Telephone:	281-654-8470
Contact Fax:	Not reported
Contact Email:	DALE.VIATOR@EXXONMOBIL.COM
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	NORTHCHASE DR ROOM 538
Mailing City,State,Zip:	HOUSTON, TX 77060
Owner Name:	Exxonmobil Oil Corporation
Owner Type:	Private
Operator Name:	Exxonmobil Oil Corporation
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No

EXXONMOBIL OIL CORPORATION 11333 (Continued) **1010328161**

Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D018
Waste Description:	Benzene

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	EXXONMOBIL OIL CORPORATION
Legal Status:	Private
Date Became Current:	19991201
Date Ended Current:	Not reported
Owner/Operator Address:	3225 GALLOWS RD
Owner/Operator City,State,Zip:	FAIRFAX, VA 22037
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	EXXONMOBIL OIL CORPORATION
Legal Status:	Private

EXXONMOBIL OIL CORPORATION 11333 (Continued) **1010328161**

Date Became Current: 19991201
Date Ended Current: Not reported
Owner/Operator Address: 3225 GALLOWS RD
Owner/Operator City,State,Zip: FAIRFAX, VA 22037
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: EXXONMOBIL OIL CORPORATION
Legal Status: Private
Date Became Current: 19991201
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: EXXONMOBIL OIL CORPORATION
Legal Status: Private
Date Became Current: 19991201
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20060919
Handler Name: EXXONMOBIL OIL CORPORATION 11333
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: EXXONMOBIL OIL CORPORATION 11333
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

EXXONMOBIL OIL CORPORATION 11333 (Continued) **1010328161**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060920
Handler Name: EXXONMOBIL OIL CORPORATION 11333
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 44711
NAICS Description: GASOLINE STATIONS WITH CONVENIENCE STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

M66 **NIAGARA MOHAWK A NATIONAL GRID CO** **RCRA NonGen / NLR** **1014926137**
SSE **4 CHELSEA PL** **NY MANIFEST** **NYP000968123**
1/8-1/4 **BUFFALO, NY 14211**
0.231 mi.
1218 ft. **Site 4 of 5 in cluster M**

Relative: **Lower**
Actual: **638 ft.**

RCRA Listings:
Date Form Received by Agency: 20120917
Handler Name: Niagara Mohawk A National Grid Co
Handler Address: CHELSEA PL
Handler City,State,Zip: BUFFALO, NY 14211
EPA ID: NYP000968123
Contact Name: MARGARET M CARD
Contact Address: ERIE BLVD W
Contact City,State,Zip: SYRACUSE, NY 13202
Contact Telephone: 315-428-6670
Contact Fax: 315-460-8388
Contact Email: Not reported
Contact Title: SR ENVIRON ANALYST
EPA Region: 02
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Not reported
State District Owner: Ny
State District: NYSDEC R9
Mailing Address: ERIE BLVD W

NIAGARA MOHAWK A NATIONAL GRID CO (Continued) **1014926137**

Mailing City,State,Zip:	SYRACUSE, NY 13202
Owner Name:	Not reported
Owner Type:	Not reported
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20170505
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Historic Generators:

Receive Date:	20120214
Handler Name:	NIAGARA MOHAWK A NATIONAL GRID CO
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No

NIAGARA MOHAWK A NATIONAL GRID CO (Continued) **1014926137**

Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120917
Handler Name: NIAGARA MOHAWK A NATIONAL GRID CO
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

Manifest Facility Information:
EPA ID: NYP000968123
Country: USA
Name: NIAGARA MOHAWK A NATIONAL GRID CO
Address: 4 CHELSEA PL
Address 2: NEAREST CROSS RD NORTHLAND
City,State,Zip: BUFFALO, NY 14211
Zip 4: Not reported
Location Address 1: 4 CHELSEA PLACE
Location Address 2: Not reported
Location City,State,Zip: BUFFALO, NY 14211
Location Zip 4: Not reported
Facility Status: Not reported
Total Tanks: Not reported
Code: BP

Mailing:
Mailing Name: NIAGARA MOHAWK A NATIONAL GRID CO
Mailing Contact: M MORROW
Mailing Address 1: 144 KENSINGTON AVE.
Mailing Address 2: Not reported
Mailing City,State,Zip: BUFFALO, NY 14214
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7168317428

Manifest Data:
Document ID: Not reported

NIAGARA MOHAWK A NATIONAL GRID CO (Continued) **1014926137**

Manifest Status:	Not reported
Trans1 State ID:	NYD986980753
Year:	2018
Trans2 State ID:	Not reported
Generator Ship Date:	02/20/2012
Trans1 Recv Date:	02/20/2012
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	02/21/2012
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYP000968123
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	001055722JJK
Import Indicator:	N
Export Indicator:	N
Discr Quantity Indicator:	N
Discr Type Indicator:	N
Discr Residue Indicator:	N
Discr Partial Reject Indicator:	N
Discr Full Reject Indicator:	N
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	H141
Waste Code a:	LEAD
Waste Code b:	Not reported
Waste Code c:	Not reported
Waste Code e:	Not reported
Waste Code f:	Not reported
Waste Code g:	Not reported
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	275
Units:	Gallons (liquids only)
Number of Containers:	5
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	1

M67 **GOMCO DIV ALLIED HEALTH CARE** **RCRA NonGen / NLR** **1000175688**
SSE **828 E FERRY ST** **FINDS** **NYD085674497**
1/8-1/4 **BUFFALO, NY 14211** **ECHO**
0.233 mi. **NY MANIFEST**
1230 ft. **Site 5 of 5 in cluster M**

Relative: **Lower**
Actual: **638 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Gomco Div Allied Health Care
Handler Address:	E FERRY ST
Handler City,State,Zip:	BUFFALO, NY 14211-1139

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

EPA ID:	NYD085674497
Contact Name:	Not reported
Contact Address:	E FERRY ST
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	E FERRY ST
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Allied Health Care
Owner Type:	Private
Operator Name:	Allied Health Care
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined
Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	F001
Waste Description:	The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F005
Waste Description:	The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F007
Waste Description:	Spent Cyanide Plating Bath Solutions From Electroplating Operations.

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ALLIED HEALTH CARE	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, WY 99999
Owner/Operator Telephone:	212-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: ALLIED HEALTH CARE	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: ALLIED HEALTH CARE
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19990708
Handler Name: GOMCO DIV ALLIED HEALTH CARE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: GOMCO DIV ALLIED HEALTH CARE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: GOMCO DIV ALLIED HEALTH CARE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Receive Date: 19800814
Handler Name: GOMCO DIV ALLIED HEALTH CARE
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Evaluation Action Summary:

Evaluation Date:	19901121
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:

Registry ID: 110001569428

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000175688
Registry ID:	110001569428
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110001569428
Name:	GOMCO DIV ALLIED HEALTH CARE
Address:	828 E FERRY ST
City,State,Zip:	BUFFALO, NY 14211

Manifest Facility Information:

EPA ID:	NYD085674497
Country:	USA
Name:	GOMCO ALLIED HEALTH CARE
Address:	828 E FERRY ST
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211-1139
Zip 4:	Not reported
Location Address 1:	828 EAST FERRY ST
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	1139
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	GOMCO ALLIED HEALTH CARE

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Mailing Contact:	GOMCO ALLIED HEALTH CARE
Mailing Address 1:	1720 SUBLETTE AVE
Mailing Address 2:	Not reported
Mailing City,State,Zip:	SAINT LOUIS, MO 63110
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	3147712400

Manifest Data:

Document ID:	NYA5445918
Manifest Status:	K - Completed after the designated time
Trans1 State ID:	9A-210
Year:	1988
Trans2 State ID:	Not reported
Generator Ship Date:	880711
Trans1 Recv Date:	880711
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	880713
Part A Recv Date:	880811
Part B Recv Date:	880719
Generator EPA ID:	NYD085674497
Trans1 EPA ID:	NYD038641601
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD038641601
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00660
Units:	Gallons (liquids only)
Number of Containers:	012
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Waste Code 7:	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE,

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste Code 8: Not reported
Waste Code: Not reported
Waste Code 10: Not reported
Waste Code 11: Not reported
Quantity: 00220
Units: Gallons (liquids only)
Number of Containers: 004
Container Type: Metal drums, barrels, kegs
Handling Method: Burn
Specific Gravity: 100

Document ID: NYA5446665
Manifest Status: C - Completed copy
Trans1 State ID: 67940GN
Year: 1988
Trans2 State ID: Not reported
Generator Ship Date: 880115
Trans1 Recv Date: 880115
Trans2 Recv Date: Not reported
TSD Site Recv Date: 880115
Part A Recv Date: 880121
Part B Recv Date: 880126
Generator EPA ID: NYD085674497
Trans1 EPA ID: NYD038641601
Trans2 EPA ID: Not reported
TSDF ID 1: NYD038641601
TSDF ID 2: Not reported
Manifest Tracking Number: Not reported
Import Indicator: Not reported
Export Indicator: Not reported
Discr Quantity Indicator: Not reported
Discr Type Indicator: Not reported
Discr Residue Indicator: Not reported
Discr Partial Reject Indicator: Not reported
Discr Full Reject Indicator: Not reported
Manifest Ref Number: Not reported
Alt Facility RCRA ID: Not reported
Alt Facility Sign Date: Not reported
MGMT Method Type Code: Not reported
Waste Code 1: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2: Not reported
Waste Code 3: Not reported
Waste Code 4: Not reported
Waste Code 5: Not reported

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Waste Code 6:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Waste Code 12:	IGNITABLE WASTE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00030
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Waste Code 17:	THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LIST IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 18:	Not reported
Waste Code 19:	Not reported
Waste Code 20:	Not reported
Waste Code 21:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	100

Document ID:	NYA3207060
Manifest Status:	K - Completed after the designated time
Trans1 State ID:	Not reported
Year:	1987
Trans2 State ID:	Not reported
Generator Ship Date:	870113
Trans1 Recv Date:	870113
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	870113

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Part A Recv Date:	870212
Part B Recv Date:	870121
Generator EPA ID:	NYD085674497
Trans1 EPA ID:	NYD038641601
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD038641601
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	100
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Waste Code 12:	IGNITABLE WASTE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00063
Units:	Gallons (liquids only)
Number of Containers:	002

GOMCO DIV ALLIED HEALTH CARE (Continued) **1000175688**

Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Waste Code 17:	IGNITABLE WASTE
Waste Code 18:	Not reported
Waste Code 19:	Not reported
Waste Code 20:	Not reported
Waste Code 21:	Not reported
Quantity:	00009
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100

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68 **F M C CORP** **RCRA NonGen / NLR** **1000108818**
NW **125 MOHICAN AVE** **FINDS** **NYD986870079**
1/8-1/4 **BUFFALO, NY 14211** **ECHO**
0.249 mi. **NY MANIFEST**
1315 ft.

Relative: **Higher**

Actual: **647 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	F M C Corp
Handler Address:	MOHICAN AVE
Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYD986870079
Contact Name:	Not reported
Contact Address:	PO BOX 845
Contact City,State,Zip:	BUFFALO, NY 14240
Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	PO BOX 845
Mailing City,State,Zip:	BUFFALO, NY 14240
Owner Name:	Colonial Iron Works Inc
Owner Type:	Private
Operator Name:	Colonial Iron Works Inc
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No

F M C CORP (Continued) **1000108818**

Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	NONE
Waste Description:	None

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	COLONIAL IRON WORKS INC
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, WY 99999
Owner/Operator Telephone:	212-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name:	COLONIAL IRON WORKS INC

F M C CORP (Continued) **1000108818**

Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: COLONIAL IRON WORKS INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19950413
Handler Name: F M C CORP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: F M C CORP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: F M C CORP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

F M C CORP (Continued) **1000108818**

Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19880613
Handler Name: F M C CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19900301
Handler Name: F M C CORPORATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 33991
NAICS Description: JEWELRY AND SILVERWARE MANUFACTURING

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110004436726

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

F M C CORP (Continued) **1000108818**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000108818
Registry ID:	110004436726
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110004436726
Name:	F M C CORP
Address:	125 MOHICAN AVE
City,State,Zip:	BUFFALO, NY 14211

Manifest Facility Information:

EPA ID:	NYD986870079
Country:	USA
Name:	FMC CORP
Address:	125 MOHICAN AVENUE
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14211
Zip 4:	Not reported
Location Address 1:	125 MOHICAN AVE
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	1021
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	FMC CORP
Mailing Contact:	FMC CORP
Mailing Address 1:	PO BOX 845
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BUFFALO, NY 14240
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	7168790485

Manifest Data:

Document ID:	NYA8087526
Manifest Status:	C - Completed copy
Trans1 State ID:	000000000
Year:	1989
Trans2 State ID:	000000000
Generator Ship Date:	890731
Trans1 Recv Date:	890731
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	890731
Part A Recv Date:	890802
Part B Recv Date:	890803
Generator EPA ID:	NYD986870079
Trans1 EPA ID:	NYD051809952
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported

F M C CORP (Continued) **1000108818**

Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01370
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Cargo tanks (tank trucks)
Handling Method:	Treat
Specific Gravity:	102

Document ID:	NYA8087517
Manifest Status:	C - Completed copy
Trans1 State ID:	000000000
Year:	1989
Trans2 State ID:	000000000
Generator Ship Date:	890504
Trans1 Recv Date:	890504
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	890504
Part A Recv Date:	890510
Part B Recv Date:	890509
Generator EPA ID:	NYD986870079
Trans1 EPA ID:	NYD051809952
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported

F M C CORP (Continued) **1000108818**

Quantity:	01600
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Cargo tanks (tank trucks)
Handling Method:	Treat
Specific Gravity:	102
Document ID:	NYA5674374
Manifest Status:	C - Completed copy
Trans1 State ID:	79506ZNY
Year:	1988
Trans2 State ID:	Not reported
Generator Ship Date:	880809
Trans1 Recv Date:	880809
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	880809
Part A Recv Date:	880817
Part B Recv Date:	880817
Generator EPA ID:	NYD986870079
Trans1 EPA ID:	NYD080336241
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00770
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Cargo tanks (tank trucks)
Handling Method:	Treat
Specific Gravity:	105
Document ID:	NYA5674383
Manifest Status:	C - Completed copy
Trans1 State ID:	77209ZNY
Year:	1988
Trans2 State ID:	Not reported
Generator Ship Date:	881102
Trans1 Recv Date:	881102
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	881103

F M C CORP (Continued) **1000108818**

Part A Recv Date:	881104
Part B Recv Date:	881115
Generator EPA ID:	NYD986870079
Trans1 EPA ID:	NYD051809952
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01300
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Cargo tanks (tank trucks)
Handling Method:	Treat
Specific Gravity:	102

Document ID:	NYA8087535
Manifest Status:	C - Completed copy
Trans1 State ID:	28003A-NY
Year:	1989
Trans2 State ID:	Not reported
Generator Ship Date:	891025
Trans1 Recv Date:	891025
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	891025
Part A Recv Date:	891101
Part B Recv Date:	891102
Generator EPA ID:	NYD986870079
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported

F M C CORP (Continued) **1000108818**

Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01200
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Cargo tanks (tank trucks)
Handling Method:	Treat
Specific Gravity:	102

Document ID:	NYA5674419
Manifest Status:	C - Completed copy
Trans1 State ID:	77209ZNY
Year:	1989
Trans2 State ID:	Not reported
Generator Ship Date:	890209
Trans1 Recv Date:	890209
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	890209
Part A Recv Date:	890213
Part B Recv Date:	890217
Generator EPA ID:	NYD986870079
Trans1 EPA ID:	NYD051809952
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD080336241
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01650
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Cargo tanks (tank trucks)
Handling Method:	Treat
Specific Gravity:	102

O69 **ATLANTIC REFINING** **NY LTANKS** **1000552985**
SSW **1500 FILLMORE** **N/A**
1/4-1/2 **BUFFALO, NY**
0.251 mi.
1324 ft. **Site 6 of 11 in cluster O**

Relative:
Lower

Actual:
636 ft.

LTANKS:

Name:	ATLANTIC REFINING
Address:	1500 FILLMORE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8804608 / 1988-08-29
Facility ID:	8804608
Site ID:	253970
Spill Date:	1988-08-25
Spill Cause:	Tank Test Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	Not reported
Cleanup Ceased:	1988-08-25
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1988-08-25
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Responsible Party
Last Inspection:	Not reported
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1988-08-29
Spill Record Last Update:	1988-09-14
Spiller Name:	Not reported
Spiller Company:	ATLANTIC
Spiller Address:	Not reported
Spiller County:	999
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	208018
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP Not reported
Remarks:	10,000 GAL.FIBERGLASS INSTALLED 1984 SAME AS SPILL #8804436,SEE OTHER FILE FOR INFO,COMPLETE.

All TTF:

Facility ID:	8804608
Spill Number:	8804608
Spill Tank Test:	1534524
Site ID:	253970
Tank Number:	Not reported
Tank Size:	0
Material:	0009
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	00
Test Method 2:	Unknown

ATLANTIC REFINING (Continued) **1000552985**

Leak Rate: .00
Gross Fail: Not reported
Modified By: Spills
Last Modified Date: Not reported

All Materials:
Site ID: 253970
Operable Unit ID: 921767
Operable Unit: 01
Material ID: 456546
Material Code: 0009
Material Name: gasoline
Case No.: Not reported
Material FA: Petroleum
Quantity: .00
Units: G
Recovered: .00
Resource Affected: Groundwater
Oxygenate: Not reported

O70 **ATLANTIC REFINING** **UST FINDER RELEASE** **1029065266**
SSW **1500 FILLMORE** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.251 mi.
1324 ft. **Site 7 of 11 in cluster O**

Relative: **Lower**
Actual: **636 ft.**

UST FINDER RELEASE:
Object ID: 244080
Facility ID: NY208018
Lust ID: NY8804608
Name: ATLANTIC REFINING
Address: 1500 FILLMORE
City,State,Zip: BUFFALO, NY 0
Address Match Type: Not reported
Reported Date: 1988/08/25 16:00:00+00
Status: No Further Action
Substance: Not reported
Population within 1500ft: 1739
Domestic Wells within 1500ft: 0
Land Use: Developed, High Intensity
Within SPA: No
SPA PWS Facility ID: Not reported
SPA Water Type: Not reported
SPA Facility Type: Not reported
SPA HUC12: Not reported
Within WHPA: Yes
WHPA PWS Facility ID: NY1430018_14182
WHPA Water Type: GW - Ground water
WHPA Facility Type: WL - Well
WHPA HUC12: 041201040601
Within 100yr Floodplain: No
Tribe: Not reported
EPA Region: 2
NFA Letter 1: Not reported
NFA Letter 2: Not reported
NFA Letter 3: Not reported

ATLANTIC REFINING (Continued) **1029065266**

NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.83922
Y Coord:	42.9145500000001
Latitude:	42.9145499999999
Longitude:	-78.8392199999999

O71 **ATLANTIC STATION** **UST FINDER RELEASE** **1029061612**
SSW **FERRY ST. & FILLMORE AVE.** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.253 mi.
1336 ft. **Site 8 of 11 in cluster O**

Relative: **Lower**
Actual: **636 ft.**

UST FINDER RELEASE:

Object ID:	244087
Facility ID:	NY162881
Lust ID:	NY8804436
Name:	ATLANTIC STATION
Address:	FERRY ST. & FILLMORE AVE.
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1988/08/19 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1708
Domestic Wells within 1500ft:	0
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.83912
Y Coord:	42.9146200000001
Latitude:	42.9146199999999
Longitude:	-78.8391199999999

O72 **ATLANTIC STATION** **NY LTANKS** **S100155253**
SSW **FERRY ST. & FILLMORE AVE.** **N/A**
1/4-1/2 **BUFFALO, NY**
0.253 mi.
1336 ft. **Site 9 of 11 in cluster O**

Relative:
Lower

Actual:
636 ft.

LTANKS:

Name:	ATLANTIC STATION
Address:	FERRY ST. & FILLMORE AVE.
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8804436 / 1994-10-27
Facility ID:	8804436
Site ID:	195498
Spill Date:	1988-08-19
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	B3
Cleanup Ceased:	1994-10-27
SWIS:	1502
Investigator:	TEDIEFFE
Referred To:	Not reported
Reported to Dept:	1988-08-19
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Local Agency
Last Inspection:	1989-08-22
Recommended Penalty:	False
Meets Standard:	False
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1988-09-06
Spill Record Last Update:	1996-05-15
Spiller Name:	Not reported
Spiller Company:	SUN COMPANY
Spiller Address:	301 WEST HIAWATHA BLVD.
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	162881
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was TED 08/19/88: 8/19/88 MNP INSP. GASOLINE FUMES IN FERRY ST. SEWER FROM FILLMORE TO HUMBOLT, GASOLINE FOUND AT ATLANTIC IN MW'S;8/19/88 MW'S VACCED ATLANTIC TO TEST TANK SYSTEMS,SEE SKETCHS & MEMO. 11/23/90: 11/23/90 MNP REVIEW OF FILE, NO MONTHLY MONITORING REPORTS SINCE JUNE 1990, REMEDIATION PLAN HAS NOT BEEN RECEIVED, REMEDIATION STILL NEEDED, LETTER BEING SENT TO SPILLER. 09/28/93: RNL - P & T, SVES IN OPERATION. 09/28/93: P & T, SVES IN OPERATION. 03/31/94: STATION CLOSED, UST'S SCHED. FOR REMOVAL WEEK OF 4/11/94. PROPOSED OVER EXCAVATION & CONFIRMATORY SAMPLING FOR RE-CLASSIFICATION TO INACTIVE STATUS. DEC TO REQUIRE INSTALLATION OF AT LEAST 2 MW'S TO R. 10/27/94: RECEIVED SOIL DISPOSAL RECEIPTS FOR SOIL GENERATED DURING REMOVAL OF UST'S & PUMP ISLAND. SITE RECLASSIFIED INACTIVE BASED ON LOW LEVELS DISSOLVED BTEX & LETTER SENT 10/27/94.
Remarks:	GASOLINE FUMES IN COMBINED SEWERS FROM LEAKING PRODUCT LINE AT GAS STATION

All TTF:

Facility ID:	8804436

ATLANTIC STATION (Continued) **S100155253**

Spill Number:	8804436
Spill Tank Test:	1534496
Site ID:	195498
Tank Number:	Not reported
Tank Size:	0
Material:	0009
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	00
Test Method 2:	Unknown
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	195498
Operable Unit ID:	921600
Operable Unit:	01
Material ID:	456375
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	500.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

O73 **CITY OF BUFFALO** **NY LTANKS** **S100560418**
SSW **1489 FILLMORE AVENUE** **NY Spills** **N/A**
1/4-1/2 **BUFFALO, NY**
0.269 mi.
1422 ft. **Site 10 of 11 in cluster O**

Relative: **Lower**
Actual: **637 ft.**

LTANKS:

Name:	CITY OF BUFFALO
Address:	1489 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9305025 / 1993-11-01
Facility ID:	9305025
Site ID:	256099
Spill Date:	1993-05-20
Spill Cause:	Tank Failure
Spill Source:	Unknown
Spill Class:	D5
Cleanup Ceased:	1993-11-01
SWIS:	1502
Investigator:	JFOTTO
Referred To:	Not reported
Reported to Dept:	1993-07-20
CID:	Not reported
Water Affected:	Not reported

CITY OF BUFFALO (Continued) **S100560418**

Spill Notifier:	Local Agency
Last Inspection:	1993-12-16
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1993-07-22
Spill Record Last Update:	1999-09-29
Spiller Name:	Not reported
Spiller Company:	CITY OF BUFFALO
Spiller Address:	65 NIAGARA SQUARE
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	209729
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was JFO 07/27/93: CITY THROUGH IWS CONDUCTING INVESTIGATION TO DETERMINE IF LEAKING UST'S ON SITE. 07/30/93: JFO/BILL SCHAAB, IWS/TELECON - IWS CONTRACTED TO REMOVE TRANSFORMERS & CONCRETE ONLY. (C)BUFFALO DISCUSSING W/IWS POSSIBILITY OF SUBSURFACE SOIL TESTING, UST & GW WELL INVEST. WILL CONTACT 8/30/93. 07/30/93: JFO/BILL SCHAAB, IWS/TELECON - IWS CONTRACTED TO REMOVE TRANSFORMERS & CONCRETE ONLY. (C)BUFFALO DISCUSSING W/IWS POSSIBILITY OF SUBSURFACE SOIL TESTING, UST & GW WELL INVEST. 10/29/93: NO SPILL HAS BEEN REPORTED. SITE CAN BE CLOSED.
Remarks:	POSSIBLE LEAKING UST'S ON-SITE.

All Materials:

Site ID:	256099
Operable Unit ID:	983311
Operable Unit:	01
Material ID:	394975
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	L
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	FORMER GENERAL ELECTRIC
Address:	1489 FILLMORE AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9511364 / 1997-06-09
Facility ID:	9511364
Site ID:	303953
Spill Date:	1995-12-08
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	B3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	PRINGLE

CITY OF BUFFALO (Continued) **S100560418**

Referred To:	Not reported
Reported to Dept:	1995-12-08
CID:	257
Water Affected:	Not reported
Spill Notifier:	Responsible Party
Last Inspection:	1997-03-13
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1995-12-08
Spill Record Last Update:	2001-06-20
Spiller Name:	LARRY SCHIAVONNE
Spiller Company:	CITY OF BUFFALO
Spiller Address:	CITY HALL - ROOM 304
Spiller County:	001
Spiller Contact:	JACK EISENBACH
Spiller Phone:	(315) 735-1916
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	245584
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 12/08/95: MNP INSPECTION, MET WITH JERRY MILNE - EISENBACH & PETER PARAGON - ALASKAN. 1 15K #6 OIL TANK EMPTIED & CLEANED IN PLACE, WATER ENTERING BOTTOM OF TANK. WARMING 2ND #6 OIL TANK, TO BE CLEANED IN PLACE. BLACK OILY SOIL BETWEEN 2 PARTIALLY EXPOSED TANKS. 1 OF 2 CHLORINATED SOLVENT TANKS REMOVED & CLEANED, THEY NOTICED SOLVENT ODOR WHILE REMOVING. OTHER SOLVENT TANK PARTIALLY EXPOSED. NOTE: THEY HAVE INSTALLED 6 2 MW'S ON SITE. MILNE TOLD ME THEY DETECTED PCB'S, ETC. IN MW CLOSEST TO SOLVENT TANKS. I ASKED FOR DAVE COMENALE TO CALL ME NEXT WEEK & ADVISE WHEN READY TO PULL REMAINING TANKS. 12/12/95: MNP TELECON WITH DAVE COMENALE - EISENBACH. PLAN TO PUMP WATER OUT FROM TANKS. I GAVE HIM DISPOSAL & TREATMENT OPTIONS. TO PULL TANKS NEXT WEEK. HE WILL NOTIFY ME FOR INSP. BEFORE BACKFILLING. ALSO, MW SAMPLE RESULTS SENT TO DEC, BUT HAD TO CHECK TO FIND OUT WHO. 12/12/95: RECEIVED FAX OF LETTER TO MARTIN DOSTER, INDICATING INVESTIGATION REPORT ATTACHED FOR REVIEW. 12/15/95: MNP DISCUSSED WITH MARTY DOSTER. HE RECEIVED PRELIMINARY INVESTIGATON REPORT INDICATING MINOR CONTAMINANTS AT SITE. DOSTER GAVE ME REPORT TO REVIEW. 12/22/95: MNP REVIEW OF 7/19/94 EISENBACH INVESTIGATION REPORT. LOW PPB EXCEEDANCES OF STARS MEMO #1 & TCE IN MW'S & SOIL BORINGS. 01/02/96: MNP TELECON WITH DAVE COMENALE - EISENBACH. PLAN TO REMOVE OIL & SOLVENT TANKS BY END OF NEXT WEEK. I ASKED FOR ADVANCE NOTIFICATION FOR DEC INSP. BEFORE BACKFILLING. WE DISCUSSED SAMPLING OF OIL & SOLVENT TANK PITS. HE WILL FAX SAMPLING PLAN WITH TANK WATER SAMPLING RESULTS. TO SEND LETTER. 01/03/96: MNP & MARTY DOSTER DISCUSSION. NO DHWR INVOLVEMENT NEEDED AT THIS TIME. DSM TO FOLLOWUP, TO LET DOSTER KNOW ABOUT ANY SIGNIFICANT HAZ-WASTE CONTAMINANTS. 01/08/96: MNP TELECON WITH DAVE COMENALE - EISENBACH. TANKS TO BE REMOVED 1/10/96, TO CALL WHEN READY TO INSP. COMENALE WILL SEND HIS SAMPLING PLAN ASAP. 01/16/96: MNP INSPECTION, MET WITH JERRY MILNE - EISENBACH & LARRY SCHIAVONNE - CITY OF BUFFALO. ALL 4 TANKS REMOVED. SMALL PILE OF OI CONTAMINATED SOIL STAGED ON PLASTIC. CONTAMINATED SOIL & APPROX. 1 FOOT OF WATER WITH SHEEN IN #6 TANK PIT. OIL PRODUCT SEEPING IN FROM SIDES. CONTAMINATED WATER & SOIL MUST BE REMOVED. NOTE - CONCRETE PAD ON BOTTOM OF TANK PIT; PAD MUST BE REMOVED, BUT NOT UNTIL WATER IS PUMPED OUT. ALSO, CHECKED SOLVENT

CITY OF BUFFALO (Continued) **S100560418**

TANK PIT, WATER CLEAR, NO VISIBLE CONTAMINATION OR ODOR. 01/16/96: MNP TELECON WITH DAVID COMENALE - EISENBACH. DISCUSSED WATER & CONTAMINATED SOIL REMOVAL & SAMPLING REQUIREMENTS, STILL NEED SAMPLING PLAN FOR SOLVENT TANK PIT. 01/17/96: MNP TELECON WITH DAVID COMENALE - EISENBACH. DISCUSSED WATER SAMPLING & DISPOSAL OPTIONS. RECOMMENDED WATER REMOVAL PRIOR TO ADDITIONAL EXCAVATION OR REMOVAL OF CONCRETE PAD. 01/24/96: MNP TELECON TO DAVID COMENALE - EISENBACH. NOT IN, LEFT MESSAGE TO RETURN CALL. 01/24/96: MNP TELECON WITH DAVID COMENALE - EISENBACH. HE SAMPLED WATER IN #6 TANK PIT TO OBTAIN APPROVAL FROM BSA TO DISCHARGE INTO SEWER, EXPECTS RESULTS TODAY. PLAN TO PUMP OUT WATER & CONTINUE CLEANUP NEXT WEEK. HE AGREED TO NOTIFY ME IN ADVANCE TO ARRANGE INSP. PRIOR TO ANY BACKFILLING. HE IS ALSO WAITING FOR RESULTS FROM HIS LAB ON THE METHANAL & KETONE TO DETERMINE WHAT SAMPLING TO DO ON SOLVENT TANK PIT. TO FAX ME SAMPLING PLAN. 01/30/96: PROPOSED SOLVENT SAMPLE PLAN & 4/27/95 SAMPLE RESULTS OF SOLVENT TANKS. SOME EXCEEDANCES OF STARS MEMO #1 & HIGH TPH NOTED, ESPECIALLY IN NORTH TANK. TO SAMPLE BOTH SOLVENT TANK PITS FOR EPA METHODS 8021 STARS MEMO #1, 8260 VOLATILES, KETONES & METHANOL. TO SAMPLE SIDES & BOTTOM OF EACH PIT ALONG WITH A SEPARATE GW SAMPLE 02/02/96: MNP TELECON WITH DAVID COMENALE - EISENBACH. TO COMPLETE CONTRACT CITY THIS WEEK & PLAN TO DO TANK PIT EXCAVATION & SAMPLING WEEK OF 2/12/96. HE WILL CALL AT LEAST 2 DAYS PRIOR WITH FIRM SCHEDULE. 03/21/96: MNP TELECON WITH TONY C. - EISENBACH. DAVID COMENALE NO LONGER WITH COMPANY, TONY DID NOT KNOW WHO WAS IN CHARGE OF PROJECT. HE WILL HAVE SOMEONE CALL ME. 03/22/96:MNP TELECON WITH JACK EISENBACH - EISENBACH. HE IS NOW HANDLING THIS PROJECT PERSONALLY. ADDITIONAL SOIL & WATER SAMPLES HAVE BEEN COLLECTED. HE WILL SEND ME A LETTER WITH A WORK SCHEDULE EARLY NEXT WEEK. 04/11/96: RECEIVED LETTER FROM JACK EISENBACH. THEY COLLECTED SOIL & WATER SAMPLES LAST WEEK, INCLUDING THE TANK PIT. SOME ADDITIONAL EXCAVATION WAS DONE ON THE EAST END OF THE SITE. EXPECT SAMPLE RESULTS IN ONE WEEK. TO FORWARD SAMPLE RESULTS WITH ACTION PLAN FOR DEC REVIEW WITHIN 2-3 WEEKS. 04/30/96: RECEIVED JACK EISENBACH REPORT CONTAINING 3/21/96 SAMPLES. 05/06/96: MNP REVIEW OF JACK EISENBACH REPORT. SAMPLES ANALYZED FOR TOTAL HEAVY METALS, PCB'S, HALOGENATED VOLATILES, AROMATIC VOLATILES, PETROLEUM PRODUCTS, & SEMIVOLATILES. NORTH & SOUTH TANK PITS MEET STARS #1. FUEL OIL TANK PIT BOTTOM EXCEEDS STARS #1 & DETECTED TRICHLOROETHENE AT 800 PPB. ALSO MW'S 1,2,4,6,7 MEET STARS #1 CRITERIA. FUEL OIL TANK PIT NEEDS REMEDIATION. 05/15/96: MNP INSPECTION, MET WITH ERIC DOUSHARM - JEE & ALASKAN OIL REMEDIATION. OVER 200 CU YDS OIL CONTAMINATED SOIL EXCAVATED SO FAR. OIL FILM & SHEEN ON WATER IN EXCAVATION. UNABLE TO CHECK BOTTOM OF EXCAVATION. WORK STILL UNDERWAY. THEY STOPPED PUMPING WATER WHEN OIL APPEARED EARLIER TODAY. THE OILY WATER MUST BE PUMPED OUT TO CHECK EXCAVATION & DETERMINE IF CONCRETE SLAB MUST BE REMOVED. TO DISCUSS IN MEETING AT CITY HALL TOMORROW. JEE TO CALL ME WHEN READY FOR ANOTHER INSP. 05/17/96: MNP INSPECTION, MET WITH ERIC DOUSHARM - JEE. THEY ALREADY EXCAVATED ABOUT 500 TONS PETROLEUM CONTAMINATED SOIL. SHEEN ON WATER IN EXCAVATION. ONLY 3,000 GALS. WATER PUMPED INTO VAC TRUCK, DECANTED 1 HR BEFORE DISCHARGING TO BSA SEWER SYSTEM. THEY HAVE REMOVED CONCRETE PAD FROM BOTTOM OF EXCAVATION. VISIBLE CLEAN CLAY BELOW. 2 COMPOSITE SIDE SAMPLES COLLECTED, BUT NEED NORTH SIDE SAMPLED YET. ALSO, I REQUESTED 2 WATER SAMPLES. NEED TO ANALYZE FOR EPA 8021 & 8270, STARS #1 & DOH 310-13. I RECOMMENDED PUMPING MORE WATER BEFORE COLLECTING WATER SAMPLES. I REQUESTED NO BACKFILLING OF EXCAVATION UNTIL DEC REVIEWS SAMPLE RESULTS. 06/18/96: RECEIVED FAX COPY OF SAMPLE RESULTS FROM JEE.

CITY OF BUFFALO (Continued) **S100560418**

06/19/96: RECEIVED NOTE ATTACHED TO FAX COPY OF ABOVE SAMPLE RESULTS FROM MARTY DOSTER - DHWR. INDICATED HIGH LEVELS. 06/27/96: MNP REVIEWED CES 6/17/96 SAMPLE REPORT. SIDE SAMPLE EXCEEDED STARS #1 FOR EPA METHODS 8021 & 8270; INDIVIDUAL LEVELS BETWEEN 35-500 PPB FOR SEMI-VOLATILES & 180-1570 PPB FOR VOLATILES. BOTTOM OF PIT SAMPLES BELOW STARS #1 LIMITS. MORE CLEANUP NEEDED. 07/01/96: MNP TELECON WITH DAVID BABOWITZ - JEE. EXCAVATION BACKFILLED BEFORE GROUNDWATER SAMPLES WERE COLLECTED. I REMINDED HIM DEC REQUESTED EXCAVATION REMAIN OPEN. WE DISCUSSED HIGH SAMPLE RESULTS FOR SIDE SAMPLE. NEED REMEDIATION PLAN TO ADDRESS REMAINING CONTAMINATION IN SOIL & GW. 09/16/96: RECEIVED REMEDIATION PLAN FROM JES. THEY PLAN TO EXCAVATE REMAINING CONTAMINATION AT THE SITE. 09/23/96: MNP TELECON W/ DAVID BABOWITZ - JEE. DISCUSSED REMEDIATION PLAN TO EXCAVATE ADDITIONAL CONTAMINATION AT THE SITE. I RECOMMENDED TEST PITS AROUND ORIGINAL TANK PIT PRIOR TO REMEDIATION, SO THEY CAN DETERMINE EXTENT OF GROUNDWATER & SOIL CONTAMINATION. I ALSO REQUESTED A WORK SCHEDULE SO I CAN INSPECT SITE BEFORE ANY BACKFILLING. HE WILL ADVISE JACK EISENBACH OF MY RECOMMENDATIONS. WE ALSO SETUP UP A MEETING WITH JACK EISENBACH IN OUR OFFICE ON 9/26/96 AT 1:00PM. 10/08/96: MNP TELECON WITH DAVID BABOWITZ - JEE. TO EXCAVATE TEST PITS ON 10/10/96. I WILL MEET MARK RUNKE - JEE ON SITE AT 10:00 AM. 10/10/96: MNP INSPECTION & MEETING WITH MARK RUNKE - JEE. 3 TEST PITS DUG OUTSIDE ORIGINAL TANK PIT. TP#1 - RED CLAY, NO VISIBLE CONTAMINATION; TP#2 - OIL CONTAMINATED SOIL & DEBRIS, SHEEN ON WATER; TP#3 - CONCRETE DEBIS, NO VISIBLE SHEEN; TP#4 - DEBRIS DOWN TO 4 FT. THEN CLAY, NO VISIBLE CONTAMINATION. RUNKE TO SEND REPORT WITH CLEANUP RECOMENDATIONS. (SEE SKETCH) 12/18/96: MNP INSPECTION, NO CHANGE SINCE OCTOBER. NO MORE CLEANUP DONE YET. 01/06/97: MNP TELECON WITH MARK RUNKE - JEE. EXCAVATIONS RESAMPLED RECENTLY, PLAN TO VAC OIL/WATER & EXCAVATE CONTAMINATED SOIL WEEK OF 1/13/97. 01/09/97: RECEIVED LETTER FROM RUNKE - JEE. WORK TO BEGIN WEEK OF 1/13/97, TO NOTIFY IN ADVANCE WHAT DAY WORK WILL BEGIN. 01/10/97: MNP TELECON WITH MARK RUNKE - JEE. TO START DIGGING ON 1/14/97, I WILL TRY TO INSPECT THAT AFTERNOON OR 1/15/97 IN AM. 01/10/97: RECEIVED FAX INDICATING WORK STARTING 1/14/97 AT 7:00 AM. 01/24/97: MNP TELECON WITH DAVID BABOWITZ - JEE. HE RECEIVED SAMPLE RESULTS FROM CES. ALL SOIL SAMPLES OK, BUT MINOR EXCEEDANCES IN GW. HE WILL FAX COPY OF SAMPLE REPORT FOR MY REVIEW. 01/24/97: RECEIVED FAX OF CES 1/24/97 SAMPLE REPORT. SOIL SAMPLES MEET STARS #1, BUT 1,2,4 TRIMETHYLBENZENE & NAPTHALENE EXCEEDS NYSDEC STANDARDS IN BOTH GW SAMPLES. 01/29/97: MNP TELECON WITH DAVID BABOWITZ - JEE. WE DISCUSSED GW SAMPLE RESULTS, 1,2,4 TRIMETHYLBENZENE & NAPTHALENE EXCEEDS NYSDEC STANDARDS. DEC CAN MAKE SITE INACTIVE, BUT CITY WANTS JEE TO MEET DEC CLSURE REQUIREMENTS. BABOWITZ PROPOSED PUMPING OUT REMAINING WATER INTO BSA (USING PERMIT), THEN RESAMPLE. IF GW SAMPLE RESULTS MEET DEC LIMITS SITE CAN BE CLOSED. I AGREED WITH PROPOSAL & WILL SEND A LETTER TO CITY WITH CC TO JEE. 03/13/97: MNP INSPECTION, MET WITH MARK RUNKE & DAVID BABOWITZ - JEE. REMAINING CONTAMINATED SOIL BEING HAULED OFF SITE. WATER BEING PUMPED FROM EXCAVATION FOR OVER 5 HOURS. ESTIMATE 12 WATER LEVEL DROP. LESS THAN HALF OF WATER REMOVED. JEE TO CONTINUE PUMPING THEN COLLECT WATER SAMPLE AT END OF DAY. DEC CLOSURE DECISION WILL BE BASED ON SAMPLE RESULTS IF VOLUME OF WATER PUMPED IS CONSIDERED TO BE REPRESENTATIVE. WE ALSO CHECKED CLOSEST MW'S, NO SHEENS OR ODORS NOTED. 03/20/97: RECEIVED COPY OF LETTER TO CITY HALL SUMMARIZING STATUS OF PROJECT. 03/26/97: RECEIVED LETTER & CES 3/21/97 SAMPLE REPORT. THE 2 SAMPLES COLLECTED FROM THE EXCAVATION ON 3/13/97 WERE ANALYZED FOR EPA METHODS 8021 & 8270, STARS #1. BOTH

CITY OF BUFFALO (Continued) **S100560418**

SAMPLES NON-DETECT & MEET STARS #1 GUIDANCE VALUES & NYSDEC GW STANDARDS. NO CHAIN OF CUSTODY ATTACHED. HOLD FOR FINAL CLOSURE REPORT FROM JEE. 04/24/97: RECEIVED FINAL CLOSURE REPORT FROM JEE. 06/04/97: MNP REVIEWED JEE CLOSURE REPORT. CLEANUP SATISFACTORY. LAST SAMPLE RESULTS MEET NYSDEC GW STANDARDS & GUIDANCE VALUES. SOIL DISPOSAL RECEIPTS SUBMITTED. TO SEND CLOSURE LETTER TO CITY OF BUFFALO. 06/09/97: CLOSURE LETTER SENT TO LAWRENCE SCHIAVONNE - CITY OF BUFFALO. NO FURTHER ACTION NEEDED, COMPLETE.

Remarks: CLEANING TANKS FOUND TO BE LEAKING

All Materials:

Site ID:	303953
Operable Unit ID:	1021869
Operable Unit:	01
Material ID:	358708
Material Code:	0003A
Material Name:	#6 fuel oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

SPILLS:

Name:	GENERAL ELECTRIC
Address:	1489 NORTH FILLMORE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9311168 / 1994-01-12
Facility ID:	9311168
Facility Type:	ER
DER Facility ID:	121286
Site ID:	142080
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	D3
SWIS:	1502
Spill Date:	1993-12-01
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	1993-12-14
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Citizen
Cleanup Ceased:	1994-01-12
Cleanup Meets Std:	True
Last Inspection:	1994-01-07
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1993-12-15
Spill Record Last Update:	1999-10-08
Spiller Name:	Not reported
Spiller Company:	GENERAL ELECTRIC

CITY OF BUFFALO (Continued) **S100560418**

Spiller Address:	1489 NORTH FILLMORE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	PUMPING WATER FROM CELLAR INTO SEWER. WATER HAS SHEEN NO IT. ABANDONED UST ON-SITE.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was FG 01/11/94: MF 1-11-94 SITE VISIT - MET W/LARRY SCHIAVONE, (C)BUFFALO AND DAVID COMERATE, EISENBACH. WATER IN ELEVATOR SHAFT FROZEN; ICE DID NOT APPEAR TO HAVE PETRO. IN IT. NO ODORS DETECTED DURING INSPECTION. 01/12/94: SITE CAN BE CLOSED BASED ON LAST INSPECTION. IF CONTAMINATION IS FOUND DURING UST REMOVAL, CITY WILL REPORT TO NYSDEC. Not reported

All Materials:

Site ID:	142080
Operable Unit ID:	989804
Operable Unit:	01
Material ID:	567242
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	L
Recovered:	.00
Resource Affected:	Sewer
Oxygenate:	Not reported

P74 **SUPER FUND SITE** **NY LTANKS** **S108299379**
SE **856 E FERRY ST** **N/A**
1/4-1/2 **BUFFALO, NY**
0.272 mi.
1438 ft. **Site 1 of 4 in cluster P**

Relative: **Lower**
Actual: **639 ft.**

LTANKS:

Name:	SUPER FUND SITE
Address:	856 E FERRY ST
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0651675 / 2007-06-01
Facility ID:	0651675
Site ID:	374523
Spill Date:	2006-12-01
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	C3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	JFOTTO
Referred To:	DAVE LOCEY REMEDIATION
Reported to Dept:	2006-12-06
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Responsible Party
Last Inspection:	Not reported
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False

SUPER FUND SITE (Continued) **S108299379**

Remediation Phase:	0
Date Entered In Computer:	2006-12-06
Spill Record Last Update:	2007-06-01
Spiller Name:	Not reported
Spiller Company:	Not reported
Spiller Address:	Not reported
Spiller County:	Not reported
Spiller Contact:	MIKE GUTMANN
Spiller Phone:	(716) 856-5636
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	324201
DEC Memo:	12/06/06 JFO WENT AND SPOKE WITH DAVE LOCEY WITH DER. HE IS THE ENGINEER ON THIS SITE. HE WILL OVERSEE THE TANK REMOVAL. 02/21/07 JFO SPOKE WITH DAVE LOCEY. THE CONTRACTOR IS OFF FOR THE WINTER. HE IS SCHEDULED TO RETURN IN MID-MARCH. THE TANK HAS NOT BEEN EMPTIED YET. HE WILL KEEP ME INFORMED. 05/31/07 JFO SPOKE WITH DAVE LOCEY. URS WILL BE PUMPING OUT THE WATER IN THE TANK TOMORROW 6/1 AND SUBMIT THE DISPOSAL RECEIPTS TO DAVE. URS WILL BE OVERSEEING THE TANK REMOVAL ON 6/4. THIS IS A SUPER FUND SITE AND DUE TO THE LEAD CONTENT ON THE SITE, ALL SOIL IN THE AREA AROUND THE TANK WILL BE DISPOSED AS HAZARDOUS. THERE WILL BE AN 8260 & 8270 CONFIRMATORY SAMPLE COLLLECTED FROM THE BOTTOM OF THE EXCAVATION. RESULTS TO GO TO DAVE L. NO FURTHER ACTION NECESSARY BY SPILLS. CLOSED
Remarks:	10,000 gallon fuel oil tank was discovered during excavation at a superfund site. noco will pumpout the tank and recycle the product.

All Materials:

Site ID:	374523
Operable Unit ID:	1132197
Operable Unit:	01
Material ID:	2121919
Material Code:	0001A
Material Name:	#2 fuel oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	Not reported
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	False

O75 **AM/PM SUN GAS STATION** **NY LTANKS** **S102448257**
SSW **1490 FILLMORE AVENUE** **N/A**
1/4-1/2 **BUFFALO, NY**
0.275 mi.
1452 ft. **Site 11 of 11 in cluster O**

Relative: LTANKS:
Lower

Name:	AM/PM SUN GAS STATION
Address:	1490 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9611000 / 1996-12-13
Facility ID:	9611000
Site ID:	197604
Spill Date:	1996-10-01
Spill Cause:	Tank Failure

Actual:
636 ft.

AM/PM SUN GAS STATION (Continued) **S102448257**

Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	E5
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1996-12-06
CID:	311
Water Affected:	Not reported
Spill Notifier:	Citizen
Last Inspection:	Not reported
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1996-12-06
Spill Record Last Update:	1996-12-16
Spiller Name:	Not reported
Spiller Company:	NONE
Spiller Address:	Not reported
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	164442
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 12/06/96: MNP TELECON W/ CALLER, HE SAID THAT HE CALLED THE DEC HOTLINE ABOUT CONTAMINATION AT THIS SITE. I ADVISED HIM THAT DEC HAS AN INACTIVE SITE STATUS FOR SPILL # 8804436 AT THAT LOCATION. I WILL CHECK TO SEE IF THEIR IS ANY CHANGE. 12/06/96: MNP DISCUSSION W/ TIM DIEFFENBACH, NO CURRENT ACTIVITY AT THE SITE SINCE CONTAMINATED SOIL WAS DISPOSED IN 1994. THE LAST SAMPLE RESULTS WERE LOW ENOUGH TO CLASSIFY THE SITE INACTIVE. 12/13/96: MNP TELECON W/ CLEVELAND MCCLOUD. I ASKED HIM IF THERE WAS ANY NEW SPILLAGE AT THE SITE SINCE 1994, HE SAID NO. HIS CONCERN WAS W/ FUTURE PROPERTY DEVELOPMENT (IE. USE AS A RESTAURANT). I FAXED A COPY OF THE LAST SAMPLE REPORT WHICH DEC USED TO MAKE SITE INACTIVE. REGARDING USE OF THE PROPERTY, I SUGGESTED HE CONTACT THE CITY OF BUFFALO & THE HEALTH DEPT. BASED ON THE INFORMATION WE HAVE, NO FURTHER CLEANUP IS NEEDED AT THIS TIME. SEE SPILL # 8804436, COMPLETE.
Remarks:	CALLER STATES THE AM/PM MART CLOSED AND TANKS REMOVED, BUT THE TANKS BURST BEFORE REMOVAL AND HE BELIEVES THE GROUND IS CONTAMINATED WITH GASOLINE. OWNERS NAME CAN BE GOTTEN THROUGH CITY COUNCIL BYRAN BROWN 851-5145

All Materials:

Site ID:	197604
Operable Unit ID:	1038911
Operable Unit:	01
Material ID:	343213
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00

AM/PM SUN GAS STATION (Continued) **S102448257**

Resource Affected: Groundwater
Oxygenate: Not reported

P76 **EAST FERRY STREET** **NY ERP** **S113917194**
SE **858 E. FERRY STREET** **N/A**
1/4-1/2 **BUFFALO (C), NY 14211**
0.277 mi.
1460 ft. **Site 2 of 4 in cluster P**

Relative: **Lower**

Actual: **639 ft.**

ERP:
Name: EAST FERRY STREET
Address: 858 E. FERRY STREET
City,State,Zip: BUFFALO (C), NY 14211-
Site Code: 57197
Program: ERP
HW Code: B00007
Site Class: N
Class N: N
SWIS: 1502
Region: 9
Town: Buffalo (c)
Acres: 3.000
Record Added: 10/28/2003
Record Updated: 02/19/2013
Updated By: MLDOSTER
Site Description: Location: The 858 East Ferry Street site is a 3.32 acre property located in the City of Buffalo. The site is located in an urban area. Site Features: The site is currently a vacant lot. The site is situated on the north side of East Ferry Street and is zoned as commercial/industrial. The site is bordered on the north by a New York Central Railroad embankment and industrial property occupied by International Extruded Products. The True Bethel Baptist Church is located opposite of the site, on the south side of East Ferry Street. TNT Used Autos, a small used car lot, is located to the west of the site. The adjacent properties west of the site are currently zoned commercial/industrial. Current Zoning/Use(s): This site is currently vacant and zoned for industrial use. Historical Use(s): At the adjacent property to the west of 858 E. Ferry Street, now occupied by the used auto lot, the 1939 Sanborn map showed that a Michael Heyman Company operated a zinc and lead smelting and refining facility. Two buildings were once located on the Heyman property; the west building was the foundry and blast furnace, and the east building, nearest the 858 E. Ferry Street site, housed the metal casting facility. A 1958 aerial photo shows a path leading from the Heyman property to the central part of the East Ferry Street site. The location of the Heyman facility adjacent to the site and the path leading onto the site support the past disposal of lead-contaminated ash in this location. Under the Environmental Restoration Program (ERP), the City of Buffalo completed an investigation in 1997-1998. The results from this investigation showed significant lead contamination in soil. Based on the results of this investigation, a ROD was signed by NYSDEC in March 1999. The selected remedy included the excavation and off-site disposal of hazardous waste and contaminated soil. The ROD also stated that the remedy would be deferred until further investigation is conducted to the west of the site. Since extensive off-site contamination was found the NYSDEC conducted the additional off-site investigation and completed remediation of the site under

EAST FERRY STREET (Continued) **S113917194**

the State Superfund program. The site is currently considered as a single operable unit. An additional investigation was completed in 2001 by the NYSDEC at adjacent properties and the results indicated that the soil is contaminated with lead on adjacent properties. The March 1999 ROD was amended in August 2005 based on a significant increase in volume of lead contaminated soil. The amended remedy included the excavation of surface and subsurface contaminated soil from the site and disposal to a permitted landfill to achieve a clean up goal for unrestricted future use and the excavation of contaminated soil from off-site properties and disposal to a permitted landfill to achieve a clean up goal for industrial/commercial use which is consistent with the current zoning. The remedial design of the amended remedy was completed in February 2006. The remedial action completed in 2007 at the site and off-site properties removed the lead-contaminated soils from surface and subsurface. The excavated soils were treated on-site and disposed appropriately in an off-site landfill. Since the contaminated soils were removed the groundwater contamination was expected to decrease. After the successful completion of the remedial action at the site, a groundwater sampling event was conducted in May 2009. The results indicated that the on-site wells did not show lead contamination above groundwater standards, which was consistent with the sampling event during the investigation. Therefore, the site can be delisted and groundwater at the site need not be monitored in the future. Currently public water supply is available in this area. Operable Units: Site Geology and Hydrogeology: The overburden deposits in the region have been mapped as lake silts and clays. The thickness of the overburden at the study area varies from approximately 8.4 feet to 17.5 feet. Beneath the overburden deposits, the bedrock consists of the Middle Devonian age Onondaga Limestone. The primary hydrogeologic unit identified beneath the study area is the unconfined watertable aquifer present in the limestone of the Onondaga Formation. However, groundwater is present in the overburden and is found primarily in the ash type fill material and in the backfilled excavation of the Scajaquada Creek Drain. The water in the overburden is reportedly connected to the bedrock groundwater. Groundwater generally flows toward the Scajaquada Creek Drain.

Env Problem: Nature and Extent of Contamination: Based on the results from investigations conducted at the site the lead-contaminated soils found at the on-site and off-site areas were located near and over the top of the covered Scajaquada Creek drain. The highest concentration of total lead detected in the surface soil was 11,500 ppm, which was found beneath a pile of gray ash. The concentrations found in the subsurface soil were as high as 28,500 ppm lead. There was a potential for the contamination from the soil to migrate to Creek Drain and the groundwater. During the investigation groundwater samples were collected from the site and off-site. Total lead was detected at a concentration of 400 g/l in the groundwater sample collected from the well located on the 856 East Ferry Street property. The sample from this well was the only sample that reported lead concentrations exceeding the NYSDEC groundwater standard. The remaining groundwater samples analyzed have detected total lead at or below groundwater standard. As stated in the amended Record of Decision (ROD), the remedial action completed in 2007 at the on-site and off-site properties removed lead contaminated soils from surface and subsurface to a clean up goal of 400 ppm of lead at the site and 1000 ppm of lead at off-site properties. As stated in the amended

EAST FERRY STREET (Continued) **S113917194**

ROD, the goal of remediating the site to unrestricted future was achieved by implementing the remedy. After the successful completion of the remedial action at the site, a groundwater sampling event was conducted in May 2009. The results indicated that the on-site wells did not show lead contamination above groundwater standards, which was consistent with the sampling event during the investigation. Therefore, groundwater at the site need not be monitored in the future. Currently public water supply is available in this area. Special Resources Impacted/Threatened: Significant Threat:

Health Problem: Not reported

P77 **858 E. FERRY** **US BROWNFIELDS** **1023618989**
SE **858 E. FERRY** **FINDS** **N/A**
1/4-1/2 **BUFFALO, NY**
0.277 mi.
1460 ft. **Site 3 of 4 in cluster P**

Relative: **Lower**
Actual: **639 ft.**

US BROWNFIELDS:

Name:	858 E. FERRY
Address:	858 E. FERRY
Recipient name:	Buffalo, City of
Grant type:	Assessment
Property Number:	-
Parcel size:	Not reported
Latitude:	42.914636999999999
Longitude:	-78.832138
Highlights:	Former Use: industrial
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	-
Assessment Funding Source:	-
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	-
Cleanup Funding Entity:	-
Grant Type:	-
Accomplishment Type:	-
Cooperative Agreement Number:	99242201
Start Date:	-
Ownership Entity:	-
Completion Date:	-
Current Owner:	-
Cleanup Required:	Y
Video Available:	-
Photo Available:	-
Institutional Controls Required:	-
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	-
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	U

858 E. FERRY (Continued) **1023618989**

State/tribal program date:	-
State/tribal program ID:	-
Contaminant Found:	Not reported
Contaminant Cleanup:	Not reported
Media Affected:	Not reported
Media Cleanup:	Not reported
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Past use commercial acreage:	-
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	-
Future use industrial acreage:	-
Future Use: Multistory	-
Past Use: Multistory	-
Property Description:	industrial
Below Poverty Number:	1503
Below Poverty Percent:	37.270000000000
Meidan Income:	6315
Meidan Income Number:	2635
Meidan Income Percent:	65.340000000000
Vacant Housing Number:	913
Vacant Housing Percent:	32.18
Unemployed Number:	354
Unemployed Percent:	8.7799999999999

FINDS:
Registry ID: 110060935029

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on Brownfields properties assessed or cleaned up with grant funding, as well as information on Targeted Brownfields Assessments (TBA) performed by EPA Regions.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

P78 **858 EAST FERRY STREET** **NY SHWS** **S104541709**
SE **858 EAST FERRY STREET** **NY Spills** **N/A**
1/4-1/2 **BUFFALO, NY 14211**
0.277 mi.
1460 ft. **Site 4 of 4 in cluster P**

Relative:
Lower

Actual:
639 ft.

SHWS:

Name:	858 EAST FERRY STREET
Address:	858 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 14211
Program:	HW
Site Code:	56749
Classification:	C
Region:	9
Acres:	3.320
HW Code:	915175

858 EAST FERRY STREET (Continued) **S104541709**

Record Add: 07/14/2004
Record Upd: 04/14/2014
Updated By: MLDOSTER
Site Description: Location: The 858 East Ferry Street site is a 3.32 acre property located in the City of Buffalo. The site is located in an urban area. Site Features: The site is currently a vacant lot. The site is situated on the north side of East Ferry Street and is zoned as commercial/industrial. The site is bordered on the north by a New York Central Railroad embankment and industrial property occupied by International Extruded Products. The True Bethel Baptist Church is located opposite of the site, on the south side of East Ferry Street. TNT Used Autos, a small used car lot, is located to the west of the site. The adjacent properties west of the site are currently zoned commercial/industrial. Current Zoning/Use(s): This site is currently vacant and zoned for industrial use. Historical Use(s): At the adjacent property to the west of 858 E. Ferry Street, now occupied by the used auto lot, the 1939 Sanborn map showed that a Michael Heyman Company operated a zinc and lead smelting and refining facility. Two buildings were once located on the Heyman property; the west building was the foundry and blast furnace, and the east building, nearest the 858 E. Ferry Street site, housed the metal casting facility. A 1958 aerial photo shows a path leading from the Heyman property to the central part of the East Ferry Street site. The location of the Heyman facility adjacent to the site and the path leading onto the site support the past disposal of lead-contaminated ash in this location. Under the Environmental Restoration Program (ERP), the City of Buffalo completed an investigation in 1997-1998. The results from this investigation showed significant lead contamination in soil. Based on the results of this investigation, a ROD was signed by NYSDEC in March 1999. The selected remedy included the excavation and off-site disposal of hazardous waste and contaminated soil. The ROD also stated that the remedy would be deferred until further investigation is conducted to the west of the site. Since extensive off-site contamination was found the NYSDEC conducted the additional off-site investigation and completed remediation of the site under the State Superfund program. The site is currently considered as a single operable unit. An additional investigation was completed in 2001 by the NYSDEC at adjacent properties and the results indicated that the soil is contaminated with lead on adjacent properties. The March 1999 ROD was amended in August 2005 based on a significant increase in volume of lead contaminated soil. The amended remedy included the excavation of surface and subsurface contaminated soil from the site and disposal to a permitted landfill to achieve a clean up goal for unrestricted future use and the excavation of contaminated soil from off-site properties and disposal to a permitted landfill to achieve a clean up goal for industrial/commercial use which is consistent with the current zoning. The remedial design of the amended remedy was completed in February 2006. The remedial action completed in 2007 at the site and off-site properties removed the lead-contaminated soils from surface and subsurface. The excavated soils were treated on-site and disposed appropriately in an off-site landfill. Since the contaminated soils were removed the groundwater contamination was expected to decrease. After the successful completion of the remedial action at the site, a groundwater sampling event was conducted in May 2009. The results indicated that the on-site wells did not show lead contamination above groundwater standards, which was consistent with the sampling

858 EAST FERRY STREET (Continued) **S104541709**

event during the investigation. Therefore, the site can be delisted and groundwater at the site need not be monitored in the future. Currently public water supply is available in this area. The process of delisting the site has been completed. The site will be designated as 'C' which refers to as completed remediation. No monitoring or institutional controls are required. Site Geology and Hydrogeology: The overburden deposits in the region have been mapped as lake silts and clays. The thickness of the overburden at the study area varies from approximately 8.4 feet to 17.5 feet. Beneath the overburden deposits, the bedrock consists of the Middle Devonian age Onondaga Limestone. The primary hydrogeologic unit identified beneath the study area is the unconfined watertable aquifer present in the limestone of the Onondaga Formation. However, groundwater is present in the overburden and is found primarily in the ash type fill material and in the backfilled excavation of the Scajaquada Creek Drain. The water in the overburden is reportedly connected to the bedrock groundwater. Groundwater generally flows toward the Scajaquada Creek Drain.

Env Problem: Nature and Extent of Contamination: Prior to Remediation: Based on the results from investigations conducted at the site the lead-contaminated soils found at the on-site and off-site areas were located near and over the top of the covered Scajaquada Creek drain. The highest concentration of total lead detected in the surface soil was 11,500 ppm, which was found beneath a pile of gray ash. The concentrations found in the subsurface soil were as high as 28,500 ppm lead. There was a potential for the contamination from the soil to migrate to Creek Drain and the groundwater. During the investigation groundwater samples were collected from the site and off-site. Total lead was detected at a concentration of 400 g/l in the groundwater sample collected from the well located on the 856 East Ferry Street property. The sample from this well was the only sample that reported lead concentrations exceeding the NYSDEC groundwater standard. The remaining groundwater samples analyzed have detected total lead at or below groundwater standard.
Post-Remediation: As stated in the amended Record of Decision (ROD), the remedial action completed in 2007 at the on-site and off-site properties removed lead contaminated soils from surface and subsurface to a clean up goal of 400 ppm of lead at the site and 1000 ppm of lead at off-site properties. As stated in the amended ROD, the goal of remediating the site to unrestricted future was achieved by implementing the remedy. After the successful completion of the remedial action at the site, a groundwater sampling event was conducted in May 2009. The results indicated that the on-site wells did not show lead contamination above groundwater standards, which was consistent with the sampling event during the investigation. Therefore, groundwater at the site need not be monitored in the future. Currently public water supply is available in this area. Currently the site declassified as 'C" indicating that the remediation is completed at the site and no future monitoring of the site is required.

Health Problem: No human exposure to contamination from this site is expected since contaminated soil is either removed or covered and public water serves the area.

Dump: True
Structure: False
Lagoon: False
Landfill: False

858 EAST FERRY STREET (Continued) **S104541709**

Pond:	False
Disp Start:	unknown
Disp Term:	unknown
Lat/Long:	42:54:54:0 / 78:49:50:0
Dell:	False
Record Add:	2004-07-14 10:13:00
Record Upd:	2008-12-18 14:15:00
Updated By:	DMMOLOUG
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	EAST DELAVAN BRANCH LIBRARY
Owner Address:	1187 EAST DELAVAN AVE
Owner Addr2:	Not reported
Owner City,St,Zip:	BUFFALO, NY 14215
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	UNKNOWN3
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	ZZ
Owner Country:	United States of America
Own Op:	1
Sub Type:	NNN
Owner Name:	DENNIS SUTTON
Owner Company:	CITY OF BUFFALO
Owner Address:	OFFICE OF STRATEGIC PLANNING
Owner Addr2:	920 CITY HALL
Owner City,St,Zip:	BUFFALO, NY 14202
Owner Country:	United States of America
HW Code:	915175
Waste Type:	LEAD
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	Not reported
Cross Ref Type Code:	Not reported
Cross Ref Type:	Not reported
Record Added Date:	Not reported
Record Updated:	Not reported
Updated By:	Not reported

SPILLS:

Name:	SITE # 915175
Address:	858 EAST FERRY ST
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1211523 / 2013-02-22
Facility ID:	1211523
Facility Type:	ER
DER Facility ID:	429877
Site ID:	474663
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2012-11-20

858 EAST FERRY STREET (Continued) **S104541709**

Investigator:	TDJOHNSO
Referred To:	Not reported
Reported to Dept:	2012-11-20
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2012-11-20
Spill Record Last Update:	2013-02-22
Spiller Name:	Not reported
Spiller Company:	UNKNOWN
Spiller Address:	Not reported
Spiller Company:	999
Contact Name:	NATE MUNLEY
DEC Memo:	spill to soil
Remarks:	11/20/12 TDJ SPOKE WITH CALLER WHO STATED WORK BEING DONE ON PROJECT EXPOSED POSSIBLE HYDRAULIC OIL SPILL TO SURFACE. REMEDIAL WORK HAD BEEN COMPLETED ON THIS SITE PLACING ALL CLEAN FILL AT THIS SPOT. CONTAMINATED SOIL WILL BE STAGED AND DISPOSED. 01/31/13 TDJ RECEIVED REPORT SHOWING CONFIRMATORY SAMPLING COMPLETED DURING THE CONSTRUCTION PROJECT AT THE SITE. RESULTS SHOWED NUMBERS BELOW CP-51 LIMITS FOR VOLATILE AND SEMI-VOLATILES EXCEPT FOR THE SOUTH WALL. ADDITIONAL SOIL WAS REMOVED AND THE SIDE WAS RESAMPLED. THE RESULTS SHOWED ND FOR ALL ANALYTES AFTER THE ADDITIONAL WORK. DISPOSAL RECEIPTS WERE ALSO INCLUDED WITH THE REPORT. WORK WAS COMPLETED TO THE SATISFACTION OF THE PM OF DEC. LETTER WILL BE SENT FOR NO FURTHER WORK REQUIRED FOR THIS SPILL. NO FURTHER ACTION FILE CLOSED

All Materials:

Site ID:	474663
Operable Unit ID:	1224502
Operable Unit:	01
Material ID:	2222504
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	G
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

Q79 **SEARCH WAREHOUSE** **UST FINDER RELEASE** **1029061275**
NW **420 EAST DELAVAN** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.296 mi.
1562 ft. **Site 1 of 2 in cluster Q**

Relative:
Higher

Actual:
645 ft.

UST FINDER RELEASE:

Object ID:	244046
Facility ID:	NY158615
Lust ID:	NY8704178
Name:	SEARS WAREHOUSE
Address:	420 EAST DELAVAN
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1987/08/19 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1596
Domestic Wells within 1500ft:	0
Land Use:	Developed, High Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8432
Y Coord:	42.9219800000001
Latitude:	42.9219799999999
Longitude:	-78.8431999999999

Q80 **SEARS ROEBUCK & CO** **RCRA-VSQG** **1000369167**
NW **420 E DELAVAN AVE** **NY LTANKS** **NYD982272577**
1/4-1/2 **BUFFALO, NY 14214** **NY Spills**
0.296 mi. **FINDS**
1562 ft. **Site 2 of 2 in cluster Q** **ECHO**
NY MANIFEST

Relative:
Higher

Actual:
645 ft.

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Sears Roebuck & Co
Handler Address:	E DELAVAN AVE
Handler City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD982272577
Contact Name:	Not reported
Contact Address:	PO BOX 13
Contact City,State,Zip:	BUFFALO, NY 14240

SEARS ROEBUCK & CO (Continued) **1000369167**

Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	PO BOX 13
Mailing City,State,Zip:	BUFFALO, NY 14240
Owner Name:	Weinstein
Owner Type:	Private
Operator Name:	Weinstein
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No

SEARS ROEBUCK & CO (Continued) **1000369167**

Manifest Broker: No
Sub-Part P Indicator: No

Hazardous Waste Summary:
Waste Code: X002
Waste Description: Not Defined

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: WEINSTEIN
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: WEINSTEIN
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: WEINSTEIN
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19990714
Handler Name: SEARS ROEBUCK & CO
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

SEARS ROEBUCK & CO (Continued) **1000369167**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: SEARS ROEBUCK & CO
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: SEARS ROEBUCK & CO
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19870910
Handler Name: SEARS ROEBUCK & CO
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

LTANKS:
Name: SEARS WAREHOUSE
Address: 420 EAST DELAVAN

SEARS ROEBUCK & CO (Continued) **1000369167**

City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8704178 / 1988-03-29
Facility ID:	8704178
Site ID:	190084
Spill Date:	1987-08-19
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	Not reported
Cleanup Ceased:	1988-03-29
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1987-08-19
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Responsible Party
Last Inspection:	1988-03-29
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1987-08-21
Spill Record Last Update:	1996-01-10
Spiller Name:	Not reported
Spiller Company:	SEARS WAREHOUSE
Spiller Address:	420 EAST DELAVAN
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	158615
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP / / : 3000 GAL TANK REMOVED, CONTAMINATED SOIL IS BEING REMOVED, MONITORING WELL TO BE INSTALLED. / / : LQR 09/09/87 TELECON W/GRAPER, ENV. OIL.,MW BEING PLACED HIT POCKET OF METHANE GAS. / / : 8/24/87 TELECON W/GRAPER, ENV. OIL., SOIL FLASHED, TO BE AERATED & DISPOSED, GASOLINE IN SOIL, MW TO BE INSTALLED. / / : 11/12/87 MNP INSP. ENV. OIL ON SITE, MW - O.K.;INSP. NEEDED. / / : 3/29/88 MNP INSP. CHECKED MW -O.K. NO SHEEN, SEPTIC ODOR NOTED;NO FURTHER ACTION NEEDED, COMPLETE.
Remarks:	CONTAMINATED SOIL FOUND IN TANK EXCAVATION

All Materials:

Site ID:	190084
Operable Unit ID:	908048
Operable Unit:	01
Material ID:	466826
Material Code:	0008
Material Name:	diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

SEARS ROEBUCK & CO (Continued) **1000369167**

SPILLS:

Name:	SEARS ROEBUCK AND CO
Address:	420 EAST DELAVAN
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9106064 / 1992-03-12
Facility ID:	9106064
Facility Type:	ER
DER Facility ID:	158615
Site ID:	190085
DEC Region:	9
Spill Cause:	Other
Spill Class:	Not reported
SWIS:	1502
Spill Date:	1991-09-05
Investigator:	SORGI
Referred To:	Not reported
Reported to Dept:	1991-09-05
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial Vehicle
Spill Notifier:	Affected Persons
Cleanup Ceased:	1992-03-12
Cleanup Meets Std:	True
Last Inspection:	1991-09-06
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1991-09-06
Spill Record Last Update:	1996-01-10
Spiller Name:	Not reported
Spiller Company:	PRODUCT DISTRIBUTION CO
Spiller Address:	4500 PROGRESS ROAD
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	TRACTOR TRAILER WITH LEAKING FUEL TANK. SEARS PUT DOWN SPEEDI-DRI TO CONTAIN. TRUCKING CO THEY WILL ASSUME CLEANUP RESPONSIBILITY.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MJS 09/05/91: MJS SITE INSPECT. SADDLE TANK RUPTURED. SPEEDI DRI APPLIED IN LOT. NO PRODUCT REACHED SEWERS. FAXED CONTRACTOR LIST TO SPILLER. 09/05/91: MJS RECHECK SITE. EPS ON SITE DOING CLEANUP. MATERIAL PLACED IN DRUMS. TO BE STAGED ON SITE AND SAMPLED. 09/06/91: LETTER TO PRODUCT DISTRIBUTION CO. 03/03/92: DRUM ADDED TO SOIL AT GOOD AND FAIR MOVING - SPILL #9106869. MJS WAITING FOR PAPERWORK. 03/12/92: RECEIVED HAZ-WASTE MANIFEST FOR THREE DRUMS OF DIESEL CONTAMINATED SPEEDI DRI. DRUMS WENT TO CHEM MET SERVICES IN MIICHIGAN. Not reported

All Materials:

Site ID:	190085
Operable Unit ID:	960404
Operable Unit:	01
Material ID:	421811
Material Code:	0008
Material Name:	diesel
Case No.:	Not reported
Material FA:	Petroleum

SEARS ROEBUCK & CO (Continued) **1000369167**

Quantity: 25.00
Units: G
Recovered: 25.00
Resource Affected: Soil
Oxygenate: Not reported

FINDS:
Registry ID: 110004417881

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000369167
Registry ID: 110004417881
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110004417881
Name: SEARS ROEBUCK & CO
Address: 420 E DELAVAN AVE
City,State,Zip: BUFFALO, NY 14214

Manifest Facility Information:
EPA ID: NYD982272577
Country: USA
Name: SEARS RETAIL DISTRIBUTION CENTER
Address: 420 E DELAVAN AVE
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14214
Zip 4: Not reported
Location Address 1: 420 EAST DELEVAN AVENUE
Location Address 2: Not reported
Location City,State,Zip: BUFFALO, NY 14240
Location Zip 4: Not reported
Facility Status: Not reported
Total Tanks: Not reported
Code: BP

Mailing:
Mailing Name: SEARS RETAIL DISTRIBUTION CENTER
Mailing Contact: SEARS RETAIL DISTRIBUTION CENTER
Mailing Address 1: 420 EAST DELEVAN AVENUE
Mailing Address 2: Not reported
Mailing City,State,Zip: BUFFALO, NY 14240
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7168819213

SEARS ROEBUCK & CO (Continued) **1000369167**

Manifest Data:

Document ID:	NJA2540119
Manifest Status:	Not reported
Trans1 State ID:	08690
Year:	1996
Trans2 State ID:	Not reported
Generator Ship Date:	03/20/1996
Trans1 Recv Date:	03/20/1996
Trans2 Recv Date:	03/25/1996
TSD Site Recv Date:	03/29/1996
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	ARD981908551
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00945
Units:	Pounds
Number of Containers:	003
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYA7330878
Manifest Status:	Not reported
Trans1 State ID:	NY35726A
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	11/10/1993
Trans1 Recv Date:	11/10/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/11/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	NYD057770109
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD057770109

SEARS ROEBUCK & CO (Continued) **1000369167**

TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00110
Units:	Gallons (liquids only)
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	MIA2663430
Manifest Status:	Not reported
Trans1 State ID:	PA7841NY
Year:	1992
Trans2 State ID:	Not reported
Generator Ship Date:	12/29/1992
Trans1 Recv Date:	12/29/1992
Trans2 Recv Date:	12/31/1992
TSD Site Recv Date:	12/31/1992
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	MID980684088
TSDF ID 1:	MID980615298
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported

SEARS ROEBUCK & CO (Continued) **1000369167**

Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00440
Units:	Gallons (liquids only)
Number of Containers:	008
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	MIA2663432
Manifest Status:	Not reported
Trans1 State ID:	PA7841NY
Year:	1992
Trans2 State ID:	Not reported
Generator Ship Date:	12/29/1992
Trans1 Recv Date:	12/29/1992
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	01/07/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID096963194
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NJA2530284
Manifest Status:	Not reported
Trans1 State ID:	08690
Year:	1996
Trans2 State ID:	Not reported
Generator Ship Date:	12/20/1996

SEARS ROEBUCK & CO (Continued) **1000369167**

Trans1 Recv Date:	12/20/1996
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/31/1996
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	BENZENE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00500
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NJA2057149
Manifest Status:	Not reported
Trans1 State ID:	08690
Year:	1995
Trans2 State ID:	Not reported
Generator Ship Date:	06/08/1995
Trans1 Recv Date:	06/08/1995
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	06/12/1995
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported

SEARS ROEBUCK & CO (Continued) **1000369167**

Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	BENZENE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00916
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Waste Code 7:	BENZENE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	03206
Units:	Pounds
Number of Containers:	007
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Waste Code 12:	BENZENE
Waste Code 13:	Not reported
Waste Code 14:	Not reported
Waste Code 15:	Not reported
Waste Code 16:	Not reported
Quantity:	00201
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Waste Code 17:	IGNITABLE WASTE
Waste Code 18:	Not reported
Waste Code 19:	Not reported
Waste Code 20:	Not reported
Waste Code 21:	Not reported
Quantity:	02199
Units:	Pounds
Number of Containers:	006
Container Type:	Metal drums, barrels, kegs
Handling Method:	Recycle
Specific Gravity:	01.00
Document ID:	NYC4574665
Manifest Status:	Not reported
Trans1 State ID:	NY15060P
Year:	1998
Trans2 State ID:	Not reported

SEARS ROEBUCK & CO (Continued) **1000369167**

Generator Ship Date:	03/12/1998
Trans1 Recv Date:	03/12/1998
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/16/1998
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	GAD000222083
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00005
Units:	Pounds
Number of Containers:	001
Container Type:	Fiberboard or plastic drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Document ID:	NJA2168516
Manifest Status:	Not reported
Trans1 State ID:	08690
Year:	1996
Trans2 State ID:	Not reported
Generator Ship Date:	07/11/1996
Trans1 Recv Date:	07/11/1996
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/18/1996
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported

SEARS ROEBUCK & CO (Continued) **1000369167**

Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00450
Units:	Pounds
Number of Containers:	002
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	ARA1685960
Manifest Status:	K - Completed after the designated time
Trans1 State ID:	H10PC708K
Year:	1987
Trans2 State ID:	Not reported
Generator Ship Date:	871006
Trans1 Recv Date:	871006
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	871008
Part A Recv Date:	871117
Part B Recv Date:	871021
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	ARD069748192
Trans2 EPA ID:	Not reported
TSDF ID 1:	ARD069748192
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00300
Units:	Gallons (liquids only)
Number of Containers:	006

SEARS ROEBUCK & CO (Continued) **1000369167**

Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	100
Document ID:	NJA2530278
Manifest Status:	Not reported
Trans1 State ID:	08690
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	02/18/1997
Trans1 Recv Date:	02/18/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	02/25/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577
Trans1 EPA ID:	ILD984908202
Trans2 EPA ID:	Not reported
TSDF ID 1:	NJD002182897
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00400
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Document ID:	PAG0126417
Manifest Status:	Not reported
Trans1 State ID:	PAAH0327
Year:	2003
Trans2 State ID:	Not reported
Generator Ship Date:	03/19/2003
Trans1 Recv Date:	03/28/2003
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/28/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD982272577

SEARS ROEBUCK & CO (Continued) **1000369167**

Trans1 EPA ID:	NYD980761191
Trans2 EPA ID:	Not reported
TSDF ID 1:	PAD067098822
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	IGNITABLE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00045
Units:	Gallons (liquids only)
Number of Containers:	009
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Click this hyperlink while viewing on your computer to access
2 additional NY MANIFEST: record(s) in the EDR Site Report.

81
North
1/4-1/2
0.297 mi.
1568 ft.

PUBLIC SCHOOL #89
106 APPENHIEMER STREET
BUFFALO, NY

NY LTANKS **S103478265**
N/A

Relative:
Higher

Actual:
663 ft.

LTANKS:

Name:	PUBLIC SCHOOL #89
Address:	106 APPENHIEMER STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9806516 / 1999-08-02
Facility ID:	9806516
Site ID:	62242
Spill Date:	1998-08-26
Spill Cause:	Tank Test Failure
Spill Source:	Institutional, Educational, Gov., Other
Spill Class:	E5
Cleanup Ceased:	1999-08-02
SWIS:	1502
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	1998-08-26
CID:	281
Water Affected:	Not reported
Spill Notifier:	Tank Tester

PUBLIC SCHOOL #89 (Continued) **S103478265**

Last Inspection:	Not reported
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1998-08-26
Spill Record Last Update:	1999-10-08
Spiller Name:	Not reported
Spiller Company:	NONE
Spiller Address:	Not reported
Spiller County:	001
Spiller Contact:	DAVE BAKER
Spiller Phone:	(716) 851-3612
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	60369
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MF 09/01/98: JDC TELECON WITH DAVE BAKER, HE STATED THAT THE TEST FAILED DUE TO AN UNCAPPED LINE THAT HAD BEEN ABANDONED. NEW TEST WILL BE RUN TO VARIFY INITIAL TESTING. WILL SEND TANK LETTER. 07/23/99: MF TOOK OVER SPILL LEAD AS JDC NO LONGER WORKS FOR DEPARTMENT, MF TELECON DAVE BAKER, LEFT MESSAGE ON MACHINE. MF TELECON WITH STEVE WADE, HE SAID BUFFALO PUBLIC SCHOOLS REPLACED THREE SUCTION & RETURN LINES. RETEST PASSED. VENT LINE & FILL PIPE ALSO REPLACED. HE WILL FAX ME INFO. 08/02/99: MF RECEIVED TANK RETEST RESULTS, PASSED [SYSTEM TT]. 08/02/99: MF TELECON WITH ED HEFT 897-8090, BOARD OF EDUCATION REPLACED LINES, NO CONTAMINATION WAS ENCOUNTERED. NO FURTHER ACTION NECESSARY.
Remarks:	TANK TEST AT ABOVE LOCATION. TEST FAILED AND SCHOOL SYSTEM ADVISED.

All TTF:

Facility ID:	9806516
Spill Number:	9806516
Spill Tank Test:	1546198
Site ID:	62242
Tank Number:	1
Tank Size:	15000
Material:	0001
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	03
Test Method 2:	Horner EZ Check I or II
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	62242
Operable Unit ID:	1067686
Operable Unit:	01
Material ID:	317669
Material Code:	0001A
Material Name:	#2 fuel oil
Case No.:	Not reported

PUBLIC SCHOOL #89 (Continued) **S103478265**

Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

82
SE
1/4-1/2
0.302 mi.
1595 ft.

BUFFALO FIRE HOUSE #33 **NY LTANKS** **S104278745**
WINSLOW AVENUE AT KEHR ST **N/A**
BUFFALO, NY

Relative:
Lower

Actual:
639 ft.

LTANKS:

Name:	BUFFALO FIRE HOUSE #33
Address:	WINSLOW AVENUE AT KEHR ST
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9909931 / 2000-09-20
Facility ID:	9909931
Site ID:	128508
Spill Date:	1999-11-16
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	B3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	RMCROSSE
Referred To:	Not reported
Reported to Dept:	1999-11-16
CID:	257
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	1999-11-18
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1999-11-16
Spill Record Last Update:	2000-09-29
Spiller Name:	DANIEL KOLKMANN
Spiller Company:	CITY OF BUFFALO FD
Spiller Address:	CITY HALL
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	110868
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was RMC 11/16/99: SAC TELECON DAVE HUTTON, TYREE, THE TANK HAS BEEN REMOVED BUT IT DID HAVE HOLES IN IT, EXCAVATION HAS MANY UTILITIES ALONG WIHT CONTAMINATION, GASLINE THAT RAN THROUGH EXCAVATION REQUIRED REPAIR, MR. HUTTON BELIEVES THAT HE WILL ONLY BE ABLE TO REMOVE CONTAMINATION ALONG ONE SIDE OF THE EXCAVATION, INSPECTION WILL BE ARRANGED TOMORROW. 11/18/99: RMC SITE INSPECTION, MET LEWIS OF TYREE, CONTAMINATION NOTED IN EXCAVATION, 15 TONS STAGED AT TRANSFER STATION, UNABLE TO DIG ANY FARTHER DUE TO NUMEROUS

BUFFALO FIRE HOUSE #33 (Continued) **S104278745**

UTILITIES, RMC REQUESTED LOCATION SKETCH ALONG WITH EXCAVATION SAMPLE RESULTS, RESULTS WILL BE USED TO DETERMINE IF FURTHER WORK IS REQUIRED, DUE 12/30 11/30/99: RMC RECEIVED REPORT FROM TYREE, NEED STARS DIESEL FOR THE HOLE RMC TELECON TO BISHOP OF TYREE, LEFT MESSAGE FOR SAMPLE RESULTS, UPDATE 1/15/00 04/10/00: RMC TELECON TO BISHOP, LEFT MESSAGE REQUESTING DOCUMENTS, DUE 5/5/00 07/--/00: RMC RECEIVED WORD FORM TYREE THAT SAMPLES WERE NOT RUN, TO OBTAIN ADDTIONAL SAMPLE AS CLOSE TO EXCAVTION AS UTILITIES WILL ALLOW, DUE 8/30 09/20/00: RMC RECEIVED REPORT, BORING TAKEN AS CLOSE AS POSSIBLE TO ORIGINAL EXCAVATION, NO EXCEEDANCES, DISPOSAL DOCUMENTED FOR 15 TONS, NO FURTHER ACTION REQUIRED CLOSE OUT

Remarks: during tank removal caller found contamined soil

All Materials:

Site ID:	128508
Operable Unit ID:	1084698
Operable Unit:	01
Material ID:	298992
Material Code:	0008
Material Name:	diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

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83 **OTIS ELEV CO ORD PLT** **FUDS** **1024899226**
East **N/A**
1/4-1/2 **BUFFALO, NY**
0.310 mi.
1639 ft.

Relative: **Higher**

Actual: **646 ft.**

FUDS:

EPA Region:	02
Installation ID:	NY29799F113600
Congressional District Number:	26
Name:	OTIS ELEV CO ORD PLT
FUDS Number:	C02NY0594
City:	BUFFALO
State:	NY
County:	ERIE
Object ID:	8335
USACE Division:	NAD
USACE District:	New England District (NAE)
Status:	Properties with all projects at site closeout
Current Owner:	Not reported
EMS Map Link:	https://fudsportal.usace.army.mil/ems/inventory/map?id=59112
Eligibility:	Eligible
Has Projects:	Yes
NPL Status:	Not reported
Project Required:	Yes
Feature Description:	The purpose of the foundry plant was the production of steel castings for antiaircraft gun mounts. Based on the FDE, the site is currently used a tool and die manufacturing plant.
Latitude:	42.91777778

OTIS ELEV CO ORD PLT (Continued) **1024899226**

Longitude: -78.82972222

84
NE
1/4-1/2
0.324 mi.
1709 ft.

MT. OLIVE SENIOR MANOR SITE
703 EAST DELAVAN AVENUE
BUFFALO, NY 14215

NY BROWNFIELDS **S127750702**
NY PFAS **N/A**

Relative:
Higher

Actual:
664 ft.

BROWNFIELDS:

Name:	MT. OLIVE SENIOR MANOR SITE
Address:	703 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14215
Program:	BCP
Site Code:	618622
Acres:	1.300
HW Code:	C915377
SWIS:	1502
Town:	Buffalo (c)
Record Added Date:	04/30/2021
Record Updated Date:	05/10/2023
Update By:	AECAPRIO
Site Description:	Location: The Mt. Olive Senior Manor site is an approximately 1.3-acre site located in a highly developed urban area at 703 East Delavan Avenue in the City of Buffalo, Erie County. The other portion of the 2.63-acre parcel at 703 East Delevan Avenue is not part of the BCP site. The site is at the southeast corner of East Delavan and Sheridan Avenues. It is bordered by the remaining portion of 703 East Delavan to the north, commercial and industrial properties to the south, an industrial property to the west and Sheridan Avenue to the east. Site Features: The site consists of a grass covered athletic field and a small portion of an adjacent asphalt parking lot to the north. Zoning and Land Use: The current zoning for the Site is N-3R (Residential), defined as moderately compact residential blocks, which occasionally include small mixed-use buildings. The site is currently a grass covered athletic field. The redevelopment plan for the site is a 3-story affordable housing development for seniors, consistent with the zoning assigned to the site. Past Use of the Site: The 703 East Delavan parcel which includes this site has historically been developed with a church building, an associated parking lot and an athletic field. Historic fuel oil and gasoline storage tanks were identified in close proximity to the site along with historic automobile repair and rug/furniture cleaning, possibly with dry-cleaning operations, which were identified adjacent to the site. Site Geology and Hydrogeology: Previous investigation identified the site geology as primarily vegetative topsoil cover over varying types of fill materials ranging in depth from 3 inches to 2 feet below ground surface (fbgs) underlain by silty sand and/or fine sand in some locations. The site is situated over the Onondaga Formation. The Onondaga Formation is comprised of a limestone of varying texture, from coarse to very finely crystalline, with a dark gray to tan color and chert and fossils within. The unit has an approximate thickness of 150 feet. The depth to bedrock was identified at approximately 2 to 6 fbgs. The site is located within the Lake Erie-Niagara River major drainage basin, which is typified by little topographic relief that gently slopes westward towards Lake Erie and the Niagara River, except in the immediate vicinity of major drainage ways. Regionally, groundwater is expected to flow westerly towards the Niagara River. Locally, groundwater was not encountered

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

Env Problem:

during previous investigations in the site overburden. Groundwater is present in the underlying bedrock at the site and flows to the west. Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), herbicides/pesticides, and per- and polyfluoroalkyl substances (PFAS). Soil vapor was analyzed for VOCs. The primary contaminants of concern are VOCs, SVOCs, herbicides/pesticides and emerging contaminants above unrestricted soil cleanup objectives (USCOs) as follows. Surface Soils: Surface soils were sampled from 0-2 inches below ground surface (bgs) and analyzed for SVOCs, metals, PCBs, herbicides/pesticides, and emerging contaminants. SVOCs detected in surface soil samples included benzo(a)anthracene at concentrations up to 8 parts per million (ppm) (USCO 1 ppm), benzo(a)pyrene at concentrations up to 8.4 ppm (USCO 1.0 ppm); benzo(b)fluoranthene at concentrations up to 9.6 ppm (USCO 1 ppm); benzo(k)fluoranthene at concentrations up to 3.7 ppm (USCO 0.8 ppm); chrysene at concentrations up to 7 ppm (USCO 1 ppm); dibenzo(a,h)anthracene at concentrations up to 1.3 ppm (USCO 0.33 ppm); and indeno(1,2,3-cd)pyrene at concentrations up to 4.4 ppm (USCO 0.5 ppm). Metals detected in surface soil samples included lead at concentrations up to 105 ppm (USCO 63 ppm); mercury at concentrations up to 0.2 ppm (USCO 0.18 ppm); chromium at concentrations up to 72.3 ppm (USCO 30 ppm); copper at concentrations up to 74 ppm (USCO 50 ppm); nickel at concentrations up to 205 ppm (USCO 30 ppm); and zinc at concentrations up to 144 ppm (USCO 109 ppm). PCBs were detected at concentrations up to 0.23 ppm (USCO 0.1 ppm) USCOs. Perfluorooctanesulfonic acid (PFOS) was detected in surface soil at concentrations up to 3.1 ppb (unrestricted use guidance value 0.88 parts per billion [ppb]). PFOA was not detected. Pesticides and herbicides detected in surface soil samples include 4,4'-DDE at concentrations up to 0.01 ppm (USCO 0.0033 ppm) and 4,4'-DDT at concentrations up to 0.015 ppm (USCO 0.0033 ppm). Data does not indicate any off-site impacts in surface soil emanating from the site. Subsurface soils: Subsurface soils were sampled from 2 inches to 3 feet bgs and analyzed for volatile organic compounds (VOCs), SVOCs, metals, herbicides/pesticides, PCBs and emerging contaminants. There were no exceedances of USCOs for VOCs identified in these samples. SVOCs detected in subsurface soils include benzo(a)anthracene at concentrations up to 41 ppm (USCO 1 ppm); benzo(a)pyrene at concentrations up to 40 ppm (USCO 1 ppm); benzo(b)fluoranthene at concentrations up to 49 ppm (USCO 1 ppm); benzo(k)fluoranthene at concentrations up to 19 ppm (USCO 0.8 ppm); chrysene at concentrations up to 41 ppm (USCO 1 ppm); dibenzo(a,h)anthracene at concentrations up to 6 ppm (USCO 0.33 ppm); and indeno(1,2,3-cd)pyrene at concentrations up to 17 ppm (USCO 0.5 ppm). Metals detected in subsurface soils include arsenic at concentrations up to 30.3 ppm (USCO 13 ppm); barium at concentrations up to 958 ppm (USCO 350 ppm); chromium at concentrations up to 224 ppm (USCO 30 ppm); copper at concentrations up to 141 ppm (USCO 50 ppm); lead at concentrations up to 2,570 ppm (USCO 63 ppm); mercury at concentrations up to 0.52 ppm (USCO 0.18 ppm); nickel at concentrations up to 300 ppm (USCO 30 ppm); and zinc at concentrations up to 315 ppm (USCO 109 ppm). PCBs were detected in subsurface soils in concentrations up to 3.5 ppm (USCO 0.1 ppm). Pesticides and herbicides detected in subsurface soils include 4,4'-DDD at concentrations up to 0.016 ppm (USCO 0.0033 ppm); 4,4'-DDE at concentrations up to 0.021 ppm (USCO 0.0033 ppm);

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

4,4'-DDT at concentrations up to 0.07 ppm (0.0033 ppm); and dieldrin at concentrations up to 0.0065 ppm (USCO 0.005 ppm). Perfluorooctanoic acid (PFOA) was detected at concentrations up to 1 ppb (unrestricted use guidance value 0.66 ppb), and PFOS was detected at concentrations up to 11 ppb (unrestricted use guidance value 0.88 ppb). Groundwater: Groundwater samples were analyzed for VOCs, SVOCs, metals, pesticides/herbicides, PCBs, and emergent contaminants. Samples were evaluated against the NYS Groundwater Quality Standards (GWQS). No exceedances of GWQS for SVOCs, herbicides, or PCBs were identified. VOCs detected in groundwater include cis-1,2-dichloroethene at concentrations up to 40 ppb (GWQS 5 ppb) and trichloroethene at concentrations up to 210 ppb (GWQS 5 ppb). Metals detected in groundwater include antimony at concentrations up to 6.8 ppb (GWQS 3 ppb); cobalt at concentrations up to 11 ppb (GWQS 5 ppb); and sodium at concentrations up to 39,200 ppb (GWQS 20,000 ppb). Samples were filtered due to turbidity; therefore, cobalt and antimony concentrations are not representative of stable groundwater conditions on site. Elevated sodium concentration in groundwater is likely due to road salt. The pesticide beta-BHC was detected in groundwater at a concentration of 0.026 ppb (GWQS 0.01 ppb). PFOA was detected at concentrations up to 75 ppt (guidance value 6.7 ppt) and PFOS at concentrations up to 390 ppt (guidance value 2.7 ppt) . Data does not indicate any off-site impacts in groundwater emanating from the site. The potential for the migration of VOCs and PFAS from an adjacent offsite source onto the site will be explored in the PDI. Soil Vapor: Soil vapor studies included the collection and testing of soil vapor samples from three locations within the planned footprint of the building to be constructed on the site. Samples were analyzed for VOCs. VOCs detected in soil vapor on site include tetrachloroethene (PCE) at concentration of 3.2 micrograms per cubic meter and trichloroethene (TCE) at concentrations up to 0.71 micrograms per cubic meter.

Health Problem: People will not come into contact with contaminated soil or groundwater unless they dig below the surface. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, future development on-site will be evaluated for soil vapor intrusion. A separate off-site and upgradient investigation is ongoing and will provide more information as to potential exposure via upgradient sources.

Dump: Not reported
Structure: Not reported
Lagoon: Not reported
Landfill: Not reported
Pond: Not reported
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: Not reported

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

Record Upd:	Not reported
Updated By:	Not reported
Own Op:	4
Sub Type:	NNN
Owner Name:	Mt. Olive Baptist Church
Owner Company:	Mt. Olive Baptist Church
Owner Address:	703 East Delavan Avenue
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	Leroy R. Coles, Jr.
Owner Company:	Buffalo & Erie County Pub Library-Leroy R. Coles Jr. Branch
Owner Address:	1187 east Delavan Avenue
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Ms. Jocelyn Bos
Owner Company:	Mt. Olive senior Manor LLC
Owner Address:	1219 North Forest Road
Owner Addr2:	Not reported
Owner City,St,Zip:	Williamsville, NY 14221
Owner Country:	United States of America
Own Op:	1
Sub Type:	NNN
Owner Name:	Robert Mootry
Owner Company:	Mt. Olive Baptist Church
Owner Address:	703 East Delavan Avenue
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14204
Owner Country:	United States of America
HW Code:	C915377
Waste Type:	mercury
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	cobalt
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	antimony
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	polychlorinated biphenyls (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	nickel
Waste Quantity:	UNKNOWN

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

Waste Code:	Not reported
HW Code:	C915377
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	copper
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	dibenz[a,h]anthracene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	benzo(b)fluoranthene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	perfluorooctane sulfonic acid
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	chromium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	zinc
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	perfluorooctanoic acid
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	benzo(a)pyrene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	benzo(k)fluoranthene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	trichloroethene (TCE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	benzo(a)anthracene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915377
Waste Type:	cis-1,2-dichloroethene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

Crossref ID:	Not reported
Cross Ref Type Code:	Not reported
Cross Ref Type:	Not reported
Record Added Date:	Not reported
Record Updated:	Not reported
Updated By:	Not reported

PFAS 3:

Name:	MT. OLIVE SENIOR MANOR SITE
Address:	703 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14215
Site Code:	618622
HW Code:	C915377
Program:	BCP
Class Code:	A
Region:	9
Acres:	1.300
Date Record Added:	04/30/2021
Date Record Updated:	05/10/2023
Water Quantity:	UNKNOWN
Updated By:	AECAPRIO
Site Description:	Location: The Mt. Olive Senior Manor site is an approximately 1.3-acre site located in a highly developed urban area at 703 East Delavan Avenue in the City of Buffalo, Erie County. The other portion of the 2.63-acre parcel at 703 East Delevan Avenue is not part of the BCP site. The site is at the southeast corner of East Delavan and Sheridan Avenues. It is bordered by the remaining portion of 703 East Delavan to the north, commercial and industrial properties to the south, an industrial property to the west and Sheridan Avenue to the east. Site Features: The site consists of a grass covered athletic field and a small portion of an adjacent asphalt parking lot to the north. Zoning and Land Use: The current zoning for the Site is N-3R (Residential), defined as moderately compact residential blocks, which occasionally include small mixed-use buildings. The site is currently a grass covered athletic field. The redevelopment plan for the site is a 3-story affordable housing development for seniors, consistent with the zoning assigned to the site. Past Use of the Site: The 703 East Delavan parcel which includes this site has historically been developed with a church building, an associated parking lot and an athletic field. Historic fuel oil and gasoline storage tanks were identified in close proximity to the site along with historic automobile repair and rug/furniture cleaning, possibly with dry-cleaning operations, which were identified adjacent to the site. Site Geology and Hydrogeology: Previous investigation identified the site geology as primarily vegetative topsoil cover over varying types of fill materials ranging in depth from 3 inches to 2 feet below ground surface (fbgs) underlain by silty sand and/or fine sand in some locations. The site is situated over the Onondaga Formation. The Onondaga Formation is comprised of a limestone of varying texture, from coarse to very finely crystalline, with a dark gray to tan color and chert and fossils within. The unit has an approximate thickness of 150 feet. The depth to bedrock was identified at approximately 2 to 6 fbgs. The site is located within the Lake Erie-Niagara River major drainage basin, which is typified by little topographic relief that gently slopes westward towards Lake Erie and the Niagara River, except in the immediate vicinity of major drainage ways. Regionally, groundwater is expected to flow westerly

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

towards the Niagara River. Locally, groundwater was not encountered during previous investigations in the site overburden. Groundwater is present in the underlying bedrock at the site and flows to the west.

Summary: People will not come into contact with contaminated soil or groundwater unless they dig below the surface. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, future development on-site will be evaluated for soil vapor intrusion. A separate off-site and upgradient investigation is ongoing and will provide more information as to potential exposure via upgradient sources.

Summary: Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), herbicides/pesticides, and per- and polyfluoroalkyl substances (PFAS). Soil vapor was analyzed for VOCs. The primary contaminants of concern are VOCs, SVOCs, herbicides/pesticides and emerging contaminants above unrestricted soil cleanup objectives (USCOs) as follows. Surface Soils: Surface soils were sampled from 0-2 inches below ground surface (bgs) and analyzed for SVOCs, metals, PCBs, herbicides/pesticides, and emerging contaminants. SVOCs detected in surface soil samples included benzo(a)anthracene at concentrations up to 8 parts per million (ppm) (USCO 1 ppm), benzo(a)pyrene at concentrations up to 8.4 ppm (USCO 1.0 ppm); benzo(b)fluoranthene at concentrations up to 9.6 ppm (USCO 1 ppm); benzo(k)fluoranthene at concentrations up to 3.7 ppm (USCO 0.8 ppm); chrysene at concentrations up to 7 ppm (USCO 1 ppm); dibenzo(a,h)anthracene at concentrations up to 1.3 ppm (USCO 0.33 ppm); and indeno(1,2,3-cd)pyrene at concentrations up to 4.4 ppm (USCO 0.5 ppm). Metals detected in surface soil samples included lead at concentrations up to 105 ppm (USCO 63 ppm); mercury at concentrations up to 0.2 ppm (USCO 0.18 ppm); chromium at concentrations up to 72.3 ppm (USCO 30 ppm); copper at concentrations up to 74 ppm (USCO 50 ppm); nickel at concentrations up to 205 ppm (USCO 30 ppm); and zinc at concentrations up to 144 ppm (USCO 109 ppm). PCBs were detected at concentrations up to 0.23 ppm (USCO 0.1 ppm) USCOs. Perfluorooctanesulfonic acid (PFOS) was detected in surface soil at concentrations up to 3.1 ppb (unrestricted use guidance value 0.88 parts per billion [ppb]). PFOA was not detected. Pesticides and herbicides detected in surface soil samples include 4,4'-DDE at concentrations up to 0.01 ppm (USCO 0.0033 ppm) and 4,4'-DDT at concentrations up to 0.015 ppm (USCO 0.0033 ppm). Data does not indicate any off-site impacts in surface soil emanating from the site. Subsurface soils: Subsurface soils were sampled from 2 inches to 3 feet bgs and analyzed for volatile organic compounds (VOCs), SVOCs, metals, herbicides/pesticides, PCBs and emerging contaminants. There were no exceedances of USCOs for VOCs identified in these samples. SVOCs detected in subsurface soils include benzo(a)anthracene at concentrations up to 41 ppm (USCO 1 ppm);

MT. OLIVE SENIOR MANOR SITE (Continued) **S127750702**

benzo(a)pyrene at concentrations up to 40 ppm (USCO 1 ppm); benzo(b)fluoranthene at concentrations up to 49 ppm (USCO 1 ppm); benzo(k)fluoranthene at concentrations up to 19 ppm (USCO 0.8 ppm); chrysene at concentrations up to 41 ppm (USCO 1 ppm); dibenzo(a,h)anthracene at concentrations up to 6 ppm (USCO 0.33 ppm); and indeno(1,2,3-cd)pyrene at concentrations up to 17 ppm (USCO 0.5 ppm). Metals detected in subsurface soils include arsenic at concentrations up to 30.3 ppm (USCO 13 ppm); barium at concentrations up to 958 ppm (USCO 350 ppm); chromium at concentrations up to 224 ppm (USCO 30 ppm); copper at concentrations up to 141 ppm (USCO 50 ppm); lead at concentrations up to 2,570 ppm (USCO 63 ppm); mercury at concentrations up to 0.52 ppm (USCO 0.18 ppm); nickel at concentrations up to 300 ppm (USCO 30 ppm); and zinc at concentrations up to 315 ppm (USCO 109 ppm). PCBs were detected in subsurface soils in concentrations up to 3.5 ppm (USCO 0.1 ppm). Pesticides and herbicides detected in subsurface soils include 4,4'-DDD at concentrations up to 0.016 ppm (USCO 0.0033 ppm); 4,4'-DDE at concentrations up to 0.021 ppm (USCO 0.0033 ppm); 4,4'-DDT at concentrations up to 0.07 ppm (0.0033 ppm); and dieldrin at concentrations up to 0.0065 ppm (USCO 0.005 ppm). Perfluorooctanoic acid (PFOA) was detected at concentrations up to 1 ppb (unrestricted use guidance value 0.66 ppb), and PFOS was detected at concentrations up to 11 ppb (unrestricted use guidance value 0.88 ppb). Groundwater: Groundwater samples were analyzed for VOCs, SVOCs, metals, pesticides/herbicides, PCBs, and emergent contaminants. Samples were evaluated against the NYS Groundwater Quality Standards (GWQS). No exceedances of GWQS for SVOCs, herbicides, or PCBs were identified. VOCs detected in groundwater include cis-1,2-dichloroethene at concentrations up to 40 ppb (GWQS 5 ppb) and trichloroethene at concentrations up to 210 ppb (GWQS 5 ppb). Metals detected in groundwater include antimony at concentrations up to 6.8 ppb (GWQS 3 ppb); cobalt at concentrations up to 11 ppb (GWQS 5 ppb); and sodium at concentrations up to 39,200 ppb (GWQS 20,000 ppb). Samples were filtered due to turbidity; therefore, cobalt and antimony concentrations are not representative of stable groundwater conditions on site. Elevated sodium concentration in groundwater is likely due to road salt. The pesticide beta-BHC was detected in groundwater at a concentration of 0.026 ppb (GWQS 0.01 ppb). PFOA was detected at concentrations up to 75 ppt (guidance value 6.7 ppt) and PFOS at concentrations up to 390 ppt (guidance value 2.7 ppt) . Data does not indicate any off-site impacts in groundwater emanating from the site. The potential for the migration of VOCs and PFAS from an adjacent offsite source onto the site will be explored in the PDI. Soil Vapor: Soil vapor studies included the collection and testing of soil vapor samples from three locations within the planned footprint of the building to be constructed on the site. Samples were analyzed for VOCs. VOCs detected in soil vapor on site include tetrachloroethene (PCE) at concentration of 3.2 micrograms per cubic meter and trichloroethene (TCE) at concentrations up to 0.71 micrograms per cubic meter.

Water Type: perfluorooctane sulfonic acid

PFAS 3:
Water Type: perfluorooctanoic acid

R85
SW
1/4-1/2
0.326 mi.
1721 ft.

UNKNOWN OIL AT 606 FERRY
606 FERRY STREET
BUFFALO, NY

Site 1 of 2 in cluster R

NY LTANKS **S100493469**
NY Spills **N/A**

Relative:
Lower

Actual:
635 ft.

LTANKS:

Name:	ATLANTIC A-PLUS
Address:	606 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9201248 / 1992-05-01
Facility ID:	9201248
Site ID:	163148
Spill Date:	1992-04-30
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	B3
Cleanup Ceased:	1992-05-01
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1992-04-30
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Local Agency
Last Inspection:	1992-05-01
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1992-06-09
Spill Record Last Update:	1993-03-22
Spiller Name:	Not reported
Spiller Company:	SUN COMPANY
Spiller Address:	301 WEST HIAWATHA BLVD.
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	137604
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 05/01/92: 5/1/92 MNP INSP. & MEETING W/BSA. HNU READINGS OVER 40 PPM ON FERRY STREET. ALSO, READINGS AT ATLANTIC STATION ON FILLMORE & FERRY. SEE SPILL # 8804436 FOR MORE INFO. & FOLLOWUP, COMPLETE.
Remarks:	GASOLINE ODORS AT 606 E. FERRY STREET FROM SANITARY SEWER. SEE SPILL # 8804436 FOR MORE INFO.

All Materials:

Site ID:	163148
Operable Unit ID:	965227
Operable Unit:	01
Material ID:	412575
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	Not reported
Recovered:	.00

UNKNOWN OIL AT 606 FERRY (Continued) **S100493469**

Resource Affected:	Sewer
Oxygenate:	Not reported

SPILLS:

Name:	UNKNOWN OIL AT 606 FERRY
Address:	606 FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9105028 / 1992-05-28
Facility ID:	9105028
Facility Type:	ER
DER Facility ID:	138243
Site ID:	163917
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	C1
SWIS:	1502
Spill Date:	1991-08-08
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1991-08-08
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Unknown
Spill Notifier:	Citizen
Cleanup Ceased:	1992-05-28
Cleanup Meets Std:	True
Last Inspection:	1991-08-08
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1991-08-21
Spill Record Last Update:	1992-08-17
Spiller Name:	Not reported
Spiller Company:	UNKNOWN
Spiller Address:	Not reported
Spiller Company:	999
Contact Name:	Not reported
DEC Memo:	REPORT OF GASOLINE ODORS FROM SEWER MH IN FRONT OF 596 & 606 FERRY STS. UNKNOWN OIL FOUND IN MH & RECEIVER.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 08/08/91: 8/8/91 MNP & TED INSP. NO SIGNIFICANT GASOLINE FOUND AT ATLANTIC STATION AT FERRY & FILLMORE STS. UNKNOWN OIL FOUND IN MH & RECEIVER AT 606 FERRY ST. SAMPLE COLLECTED & PADS USED TO CONTAIN. 05/28/92: 5/28/92 MNP FILE REVIEW, CLEANUP DONE BY BSA. LAB PAYMENT PACKAGE PROCESSED. NO FURTHER ACTION POSSIBLE. RNL TO DO FINAL ISR, COMPLETE.

All Materials:

Site ID:	163917
Operable Unit ID:	955699
Operable Unit:	01
Material ID:	424069
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported

UNKNOWN OIL AT 606 FERRY (Continued) **S100493469**

Material FA:	Petroleum
Quantity:	.00
Units:	Not reported
Recovered:	.00
Resource Affected:	Sewer
Oxygenate:	Not reported

R86 **ATLANTIC A-PLUS** **UST FINDER RELEASE** **1029059480**
SW **606 EAST FERRY STREET** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.326 mi.
1721 ft. **Site 2 of 2 in cluster R**

Relative: **Lower**
Actual: **635 ft.**

UST FINDER RELEASE:

Object ID:	244053
Facility ID:	NY137604
Lust ID:	NY9201248
Name:	ATLANTIC A-PLUS
Address:	606 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1992/04/30 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	2333
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.842
Y Coord:	42.9147100000001
Latitude:	42.9147099999999
Longitude:	-78.8419999999999

S87 **OTIS ELEVATOR** **NY HSWDS** **S108147108**
ENE **230 GRIDER ST.** **N/A**
1/4-1/2 **BUFFALO, NY 14215**
0.336 mi.
1775 ft. **Site 1 of 2 in cluster S**

Relative:
Higher

Actual:
655 ft.

HSWDS:

Facility ID:	Not reported
Region:	9
Facility Status:	Unknown
Owner Type:	Puplic
Owner:	Hard Manufacturing Co. Inc.
Owner Address:	230 Grider St.
Owner Phone:	(716)893-1800
Operator Type:	Puplic
Operator:	Same
Operator:	Same
Operator Phone:	Same
EPA ID:	None
Registry:	D
Registry Site ID:	915073
RCRA Permitted:	Unknown
Site Code:	Industrial Landfill
Owner City State:	Buffalo, NY 14215
Operator City State:	Not reported
Quadrange:	Buffalo, NE
Latitude:	42 55'29"N
Longitude:	78 49'53"W
Acres:	16.00
Operator Date:	1942
Close Date:	Unknown
Completed:	Phase 1
Active:	Unknown
PCB's Disposed:	No
Pesticides Disposed:	No
Metals Disposed:	No
Asbestos Disposed:	No
Volatile Organic Compounds Disposed:	No
Semi Volatile Organic Compounds Disposed:	No
Analytical Info Exists for Air:	Not reported
Analytical Info Exists for Ground:	Groundwater
Analytical Info Exists for Surface:	Not reported
Analytical Info Exists for Sediments:	Not reported
Analytical Info Exists for Surface:	Surface Soil
Analytical Info Exists for Substance:	Not reported
Analytical Info Exists for Waste:	Not reported
Analytical Info Exists for Leachate:	Not reported
Analytical Info Exists for EP Toxicity:	Not reported
Analytical Info Exists for TCLP:	Not reported
Threat to Environment/Public Health:	None
Surface Water Contamination:	Unknown
Surface Water Body Class:	B
Groundwater Contamination:	Unknown
Groundwater Classification:	Unknown
Drinking Water Contamination:	Unknown
Drinking Water Supply is Active:	Unknown
Any Known Fish or Wildlife:	Unknown
Hazardous Exposure:	Unknown
Site Has Controlled Acess:	Unknown

OTIS ELEVATOR (Continued) **S108147108**

Ambient Air Contamination:	Unknown
Direct Contact:	Unknown
EPA Hazardous Ranking System Score:	0
Inventory:	F
Nefrap:	Not reported
Mailing:	Not reported
Tax Map No:	Not reported
Qualify:	0
Next Action:	Not reported
Agencies:	Not reported
Air:	Not reported
Building:	Not reported
Site Desc:	Not reported
Drink:	Not reported
Eptox:	Not reported
Fish:	Not reported
Ground:	Not reported
Ground Desc:	Not reported
Hazardous Threat:	Not reported
Haz Threat Desc:	Not reported
Leachate:	Not reported
Preparer:	Not reported
Sediment:	Not reported
Soil:	Not reported
Surface:	Not reported
Status:	Not reported
Surface Soil:	Not reported
Surface:	Not reported
TCLP:	Not reported
Waste:	Not reported

S88 **OTIS ELEVATOR** **SEMS-ARCHIVE** **1003863968**
ENE **230 GRIDER STREET** **NYD980641567**
1/4-1/2 **BUFFALO, NY 14215**
0.336 mi.
1775 ft. **Site 2 of 2 in cluster S**

Relative:
Higher

Actual:
655 ft.

SEMS Archive:

Site ID:	0202139
EPA ID:	NYD980641567
Name:	OTIS ELEVATOR
Address:	230 GRIDER STREET
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14215
Cong District:	37
FIPS Code:	36029
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	02
Site ID:	0202139
EPA ID:	NYD980641567
Site Name:	OTIS ELEVATOR
NPL:	N
FF:	N
OU:	00

OTIS ELEVATOR (Continued) **1003863968**

Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1
Start Date:	Not reported
Finish Date:	1986-03-17 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf In-Hse
Region:	02
Site ID:	0202139
EPA ID:	NYD980641567
Site Name:	OTIS ELEVATOR
NPL:	N
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1980-04-15 05:00:00
Finish Date:	1980-04-15 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	02
Site ID:	0202139
EPA ID:	NYD980641567
Site Name:	OTIS ELEVATOR
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	Not reported
Finish Date:	1986-03-17 05:00:00
Qual:	N
Current Action Lead:	St Perf

T89 **AFPLT NO 49** **FUDS** **1009484516**
ESE **N/A**
1/4-1/2 **BUFFALO, NY**
0.348 mi.
1836 ft. **Site 1 of 3 in cluster T**

Relative:
Higher

Actual:
647 ft.

FUDS:

EPA Region:	02
Installation ID:	NY29799F111600
Congressional District Number:	26
Name:	AFPLT NO 49
FUDS Number:	C02NY0574
City:	BUFFALO
State:	NY
County:	ERIE
Object ID:	6897
USACE Division:	NAD
USACE District:	New England District (NAE)
Status:	Properties with all projects at site closeout

AFPLT NO 49 (Continued) **1009484516**

Current Owner: LOCAL: COUNTY ERIE COUNTY INDUSTRISAL DEVELOPMENT AGENCY AND THE CURTISS-WRIGHT CORPORATION.
EMS Map Link: https://fudsportal.usace.army.mil/ems/inventory/map?id=58292
Eligibility: Eligible
Has Projects: Yes
NPL Status: Not reported
Project Required: Yes
Feature Description: On 5/7/1952, the Government purchased 7.65 acres fee from the Curtiss-Wright Corporation. On 5/21/1952, the Government purchased 0.24 of an acre easement from the Curtiss-Wright Corporation. The easement was for a right-of way for a railroad spur. On 6/24/1965, Air Force Plant No. 49 was declared excess to the needs of the US Air Force. By letter dated 3/28/1966, from the Secretary of the Air Force, the installation was reinstated into the Air Force Real Estate Inventory. On 6/2/1980, GSA accepted care and custody of Air Force Plant No. 49. By quitclaim deed dated 12/21/1983, 7.65 acres fee and 0.24 acre easement were conveyed to the Curtiss-Wright Corporation. There were no restrictive, restoration or recapture clauses in the deed. By bargain and Sale Deed dated 21/21/1983, Curtiss-Wright Corporation conveyed 7.65 acres fee and 0.24 acres easement were conveyed to the Erie County Industrial Development Agency (ECIDA).
Latitude: 42.91527778
Longitude: -78.82972222

FUDS Detail as of Jan 2015:
Fiscal Year: 2013
Federal Facility ID: NY9799F1116
RAB: Not reported
NPL Status: Not Listed
Description: The former Air Force Plant No. 49 is located on Grider Street, City of Buffalo, State of New York. The mission of Air Force Plant No. 49 was the production of steel extrusions. It is currently being used as an industrial plant.
History: On 5/7/1952, the Government purchased 7.65 acres fee from the Curtiss-Wright Corporation. On 5/21/1952, the Government purchased 0.24 of an acre easement from the Curtiss-Wright Corporation. The easement was for a right-of way for a railroad spur. On 6/24/1965, Air Force Plant No. 49 was declared excess to the needs of the US Air Force. By letter dated 3/28/1966, from the Secretary of the Air Force, the installation was reinstated into the Air Force Real Estate Inventory. On 6/2/1980, GSA accepted care and custody of Air Force Plant No. 49. By quitclaim deed dated 12/21/1983, 7.65 acres fee and 0.24 acre easement were conveyed to the Curtiss-Wright Corporation. There were no restrictive, restoration or recapture clauses in the deed. By bargain and Sale Deed dated 21/21/1983, Curtiss-Wright Corporation conveyed 7.65 acres fee and 0.24 acres easement were conveyed to the Erie County Industrial Development Agency (ECIDA).
CTC: 12
Current Program: Not reported
Future Program: Not reported
Institutional ID: 58292

T90 **CURTISS WRIGHT (FORMER)** **UST FINDER RELEASE** **1029079737**
ESE **60 GRIDER** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.353 mi.
1862 ft. **Site 2 of 3 in cluster T**

Relative: **Higher**
Actual: **644 ft.**

UST FINDER RELEASE:

Object ID:	244188
Facility ID:	NY95594
Lust ID:	NY9875087
Name:	CURTISS WRIGHT (FORMER)
Address:	60 GRIDER
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1998/10/01 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1494
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.82921
Y Coord:	42.9162000000001
Latitude:	42.9162
Longitude:	-78.82921

T91 **CURTISS WRIGHT CORPORATION** **RCRA-VSQG** **1000413812**
ESE **60 GRIDER ST** **NY LTANKS** **NYD002114825**
1/4-1/2 **BUFFALO, NY 14215** **NY Spills**
0.353 mi. **NY MANIFEST**
1862 ft. **Site 3 of 3 in cluster T**

Relative: **Higher**
Actual: **644 ft.**

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Curtiss Wright Corporation
Handler Address:	GRIDER ST
Handler City,State,Zip:	BUFFALO, NY 14215
EPA ID:	NYD002114825
Contact Name:	JEFFREY D WIND
Contact Address:	Not reported
Contact City,State,Zip:	Not reported
Contact Telephone:	716-297-6150 x394

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	NIAGARA FALLS BVD.
Mailing City,State,Zip:	NIAGARA FALLS, NY 14304
Owner Name:	Wyman Gordon
Owner Type:	Private
Operator Name:	No Name Found
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Sub-Part P Indicator: No

Biennial: List of Years
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D000
Waste Description: Not Defined

Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: NONE
Waste Description: None

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: WYMAN GORDON
Legal Status: Private
Date Became Current: 19980601
Date Ended Current: Not reported
Owner/Operator Address: 244 WORCESTER STREET
Owner/Operator City,State,Zip: NORTH GRAFTON, MA 01536
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: WYMAN GORDON
Legal Status: Private
Date Became Current: 19980601
Date Ended Current: Not reported
Owner/Operator Address: 244 WORCESTER STREET
Owner/Operator City,State,Zip: NORTH GRAFTON, MA 01536
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CURTISS WRIGHT CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Owner/Operator Indicator: Operator
Owner/Operator Name: NO NAME FOUND
Legal Status: Private
Date Became Current: 19980601
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: WYMAN GORDON
Legal Status: Private
Date Became Current: 19980601
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19950329
Handler Name: CURTISS WRIGHT CORP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060120
Handler Name: CURTISS WRIGHT CORPORATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060119
Handler Name: CURTISS WRIGHT CORPORATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: CURTISS WRIGHT CORPORATION
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19890331
Handler Name: CURTISS WRIGHT CORP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940328
Handler Name: CURTISS WRIGHT CORP BUFFALO FACILITY
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020228
Handler Name: INTERNATIONAL EXTRUDED PRODUCTS LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Electronic Manifest Broker: Not reported

Receive Date: 20040224
Handler Name: CURTISS WRIGHT CORPORATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 33121
NAICS Description: IRON AND STEEL PIPE AND TUBE MANUFACTURING FROM PURCHASED STEEL

NAICS Code: 332111
NAICS Description: IRON AND STEEL FORGING

NAICS Code: 336412
NAICS Description: AIRCRAFT ENGINE AND ENGINE PARTS MANUFACTURING

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19940810
Actual Return to Compliance Date: 19940914
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19940910
Enforcement Identifier: 000
Date of Enforcement Action: 19940810
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: NY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: NYNSL
Enforcement Responsible Sub-Organization: R9
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20020122
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: NYTCT
Evaluation Responsible Sub-Organization: R9
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19940804
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	19940914
Scheduled Compliance Date:	19940910
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

LTANKS:

Name:	CURTISS WRIGHT (FORMER)
Address:	60 GRIDER
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9875087 / 2001-11-21
Facility ID:	9875087
Site ID:	108796
Spill Date:	1998-10-01
Spill Cause:	Tank Failure
Spill Source:	Commercial/Industrial
Spill Class:	C3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1998-10-05
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	2001-11-19
Recommended Penalty:	False
Meets Standard:	False
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1998-10-05
Spill Record Last Update:	2001-11-21
Spiller Name:	BILL SCHMIDT
Spiller Company:	WYMAN GORDON ENERGY PRODS
Spiller Address:	60 GRIDER STREET
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	95594
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 10/9/98:RECEIVED SUBSURFACE INVESTIGATION REPORT FOR AREA OF OFORMER FUEL OIL AND GASOLINE TANKS. 4/27/99 - KAB/GARY KLAWINSKI, GZA/TELECON - FORWARDING REPORT ON ASSESSMENT OF TANKS ON PROPERTY TODAY. REQUESTS MEETING TO DISCUSS REMEDIATION PLAN. 6/21/99:SAC MET

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

W/GARY KLAWINSKI - GZA, MR. KLAWINSKI SHOWED RESULTS OF ADDITIONAL GEOPROBE STUDY THAT WAS DONE AS A RESULT OF SUBSURFACE INVESTIGATION WORK THAT WAS COMPLETED LAST YEAR, DISCUSSED PROJECT, SAC TO REVIEW REPORTS AND DISCUSS W/RNL, REQUIREMENTS BASED ON REPORTS. 6/21/99:SAC DISCUSS SITE W/RNL, TANK 4 AREA - (2)- 11,250 GALLON FUEL OIL TANKS REQUESTED TO BE CLOSED IN PLACE, TEST PIT SAMPLE RESULTS FROM RIGHT NEXT TO THE TANKS USING TCLP 8021 & 8270 TO ANALYZE SAMPLES SHOW ONLY PARAMETER ABOVE STARS IS BENZENE AT 1.4 ppb, THEREFORE TANKS CAN BE CLOSED IN PLACE AND NO FURTHER WORK REQUIRED IN AREA, TANK 5 AREA - (1) - 350 GALLON GASOLINE TANK, CONTAMINATED SOIL AROUND THE TANK WILL BE REMOVED AND SINCE TANK WAS INSTALLED INTO THE BEDROCK ONLY SIDE WALL SAMPLES WILL BE REQUIRED, TANK 1 AREA - FORMER LOCATION OF (1) - 200 GALLON GASOLINE TANK, CONTAMINATED SOIL IN THE AREA MUST BE REMOVED, AND ONCE THE CONTAMINATED SOIL HAS BEEN REMOVED THEY MUST SAMPLE THE SOIL TO CONFIRM THE CLEANUP AND INSTALL A WELL AT THE SITE TO MAKE SURE GW NO LONGER AFFECTED, ADDITIONAL WORK IS REQUIRED AROUND THE TANK 2 AREA BECAUSE OF THE OIL DROPLETS FOUND IN THE WELL INSTALLED FROM GP-3 AND FOR THE TANK 3 AREA MORE WORK IS REQUIRED BASED ON THE SOIL LEVELS FOUND FROM GP-22. 6/22/99:SAC MET W/GARY KLAWINSKI - GZA, BILL SCHMIDT AND JAMES THARP - WYMAN GORDON, DISCUSSED REQUIREMENTS FOR THE SITE, TANK AREAS 1, 4, & 5 DISCUSSED AND AGREED UPON AS STATED IN ABOVE HISTORY NOTE DATED 6/21/99, TANK 2 & 3 AREA DISCUSSED, SAC STATED BASED ON DISCUSSIONS W/RNL THAT MORE WORK IS REQUIRED IN THESE AREAS, MR. KLAWINSKI SAID IT WILLL BE IMPOSSIBLE TO EXCAVATE IN THIS AREA DUE TO THE PRESENCE OF THE TRANSFORMERS AND THE UTILITY LINES AT THIS LOCATION, FOR THE OIL DROPLETS FOUND IN GP-3 THEY PROPOSED TO BAIL THE WELL TO SEE IF THEY COULD REMOVE THE PRODUCT FROM THE WELL IN THIS MANNER, SAC INDICATED THAT WAS OK TO TRY FIRST, ALSO ALTHOUGH IT IS ALWAYS RECOMMENDED TO REMOVE UNDERGROUND STORAGE TANKS, THE (2) 20,000 GALLON FUEL OIL TANKS WHICH WERE FILLED BUT THE FILLED MATERIAL HAD NOW SETTLED COULD BE FILLED AGAIN BUT THE CONTAMINATION WOULD HAVE TO BE ADDRESSED, FOR GP-22 A TCLP SAMPLE COULD BE TAKEN TO ADDRESS THIS AREA, IT WAS AGREED THAT SAC WOULD SEND A LETTER REQUESTING A WORKPLAN BY JULY 30TH. 6/24/99:SAC REVIEWED REPORTS AGAIN AND FOUND THAT TP-2 ANALYTICAL RESULTS HAD ELEVATED LEVELS THAT WERE NOT DISCUSSED W/RNL OR AT THE MEETING, SAC TELECON GARY KLAWINSKI - GZA REGARDING THESE LEVELS, IT WAS AGREED THAT THE RESAMPLING OF GP-22 AREA AND REANALYZED USING TCLP METHOD SHOULD BE POSTPONED UNTIL A MEETING WAS SETUP TO FURTHER EVALUATE THE AREA, TENTATIVELY SET UP A MEETING FOR 7/2/99. 7/2/99:RNL, SAC MET WITH GARY KLAWINSKI - GZA, BILL SCHMIDT & TOM NICHOLS - WYMAN GORDON, INSPECTED TANK AREA 1, 2 & 3, RNL REQUIRES FURTHER WORK IN TANK 3 AREA BASED ON SAMPLE RESULT LEVELS, DISCUSSED REMEDIAL OPTION FOR TANK 3 AREA WHICH IS TP-2 & GP-22 AREA, MR. GLAWINSKI SAID THEY WILL PROBABLY TRY TO INTRODUCE OXYGEN RELEASING COMPOUNDS TO THE AREA TO REMEDIATE THIS AREA, THEY WILL STILL SUBMIT A WORKPLAN BY JULY 31ST. 7/6/99:SAC DRAFTED LETTER REQUIRING WORKPLAN BY 7/31/99. 7/19/99:RECEIVED WORKPLAN FROM GZA. 7/26/99:DRAFTED COMMENT LETTER TO BILL SCHMIDT - WYMAN GORDON, INC., REQUIRING GROUNDWATER SAMPLED AT TANK AREA NO.1, TANK AREA 5 MUST HAVE SIDE WALLS SAMPLED IN THE OVERBURDEN, AND A BORING LOCATION MAP FOR THE ORC INJECTION POINTS AT AREA TP-2 & GP-22. 7/28/99:RECEIVED A FAXED COPY OF THE BORING LOCATION MAP FOR ORC INJECTION. 8/24/99:SAC INSPECT SITE AND MET W/GARY KLAWINSKI, JASON KELLY, & DAN TROY - GZA, TANK 5 AREA HAD TANK REMOVED, CONTAMINATED SOIL WAS STAGED ON SITE, SMALL AMOUNT OF WATER NOTED W/SLIGHT SHEEN, THEY WILL PUMP THE WATER INTO THE BIO CELL, HAND DIG OUT THE REMAINING AREAS OF CONTAMINATION

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

TAKE SIDE WALL SAMPLES AND INSTALL WELL, TANK 4 AREA AND THE TANK 2 AREA WERE BEING FILLED IN WITH FLOWABLE FILL, TANK 1 AREA WAS EXCAVATED, THEY DID NOT WANT TO DIG INTO THE ROAD BECAUSE THE ROAD HAD 8 INCHES TO 1 FOOT OF REINFORCED CONCRETE, THEY ARE GOING TO CONTINUE TO EXCAVATE THE AREA, ONCE COMPLETED THEY AREA GOING TO TAKE SAMPLES AND INSTALL A WELL, THEY MAY NOT BE ABLE TO SAMPLE THE BOTTOM SINCE THEY ARE SO CLOSE TO EXCAVATING TO BEDROCK, THEY WILL ALSO PLACE ORCs INTO THE EXCAVATION TO TRY AND REMOVE ANY RESIDUAL CONTAMINATION THAT REMAINS, THE EXCAVATION HAD SOME GROUNDWATER WITH SHEEN, THEY ARE IN THE PROCESS OF SETTING UP THE BIOCELL, THEY INJECTED THE ORCs PREVIOUSLY IN THE GP-22/TP-2/TANK 3 AREA, PER MR. KLAWINSKI THEY STARTED TO BAIL THE WELL GP-3 TO REMOVE THE OIL DROPLETS OF PRODUCT SINCE THE INITIAL MEETING AND THIS PROCEDURE HAS BEEN ONGOING, THE AMOUNT OF OIL RECOVERED HAS DECREASED WITH THE BAILINGS, THEY HAVE FIVE DAY TURNAROUND FOR THE ANALYTICAL RESULTS AND ARE USING PARADIGM LABS FOR ALL ANALYSES, THEY WILL ISSUE THE REPORT ON TEH COMPLETED WORK IN THE NEXT FEW WEEKS, THEY ARE NOT GOING TO SAMPLE THE GP-22/TP-2/TANK 3 FOR AT LEAST A FEW MONTHS SO THIS WILL NOT BE PART OF THE REPORT. 11/18/99:RNL, SAC MET W/GARY KLAWINSKI - GZA, BILL SCHMIDT AND JIM THARPE, IXP - WYMAN GORDON, MR. KLAWINSKI WILL SUBMIT A PROGRESS REPORT AND INCLUDE AN EXPOSURE ASSESSMENT BASED ON THE WORK DONE. 2/3/00:SAC TELECON GARY KLAWINSKI - THEY HAVE TAKEN THE AIR SAMPLES AND THE SOIL GAS SURVEY SAMPLES AND ARE WAITING FOR THE RESULTS, WILL BE SENDING A REPORT TO DEC IN THE NEXT FEW WEEKS. 7/5/01:SAC MET W/GARY KLAWINSKI TO DISCUSS SITE, MR. KLAWINSKI HAS DONE ADDITIONAL SAMPLING AND WILL SUBMIT A REPORT NEXT WEEK AND REQUEST NO FURTHER ACTION ON SITE. 10/11/01:RECEIVED REMEDIAL ACTION CLOSURE REPORT FROM GZA, OUTLINING ALL WORK THAT WAS DONE INCLUDING ALL REPORTS THAT WERE PUT TOGETHER. 10/?/01:SAC REVIEWED CLOSURE REPORT W/DKK, ALTHOUGH TAGM 4046 GUIDANCE VALUES WERE EXCEEDED AT TANK AREA 1 AND TANK AREA 3 (GP-22), NO FURTHER WORK WILL BE REQUIRED SINCE THE SITE WILL REMAIN INDUSTRIAL, FURTHER EXCAVATION OF THE SOIL WOULD NOT BE FEASIBLE DUE TO ON-SITE STRUCTURES AND UTILITIES, THERE IS NOT SIGNIFICANT CONTAMINANT MIGRATION VIA THE GROUNDWATER, THERE APPEARS TO BE NO CONTAMINATION THAT HAS MIGRATED TO SOIL OFF-SITE, BASED ON THE SAMPLE RESULTS BIOTREATMENT OF THE SOIL HAS BEEN COMPLETED AND IT WILL BE USED ON-SITE AS FILL (PENDING AN INSPECTION OF THE SOIL IN THE BIOCELL), SITE WILL BE GIVEN INACTIVE STATUS. 11/19/01:SAC INSPECT BIOCELL W/GARY KLAWINSKI - GZA AND BILL SCHMIDT - WYMAN GORDON/IXP, LARGE AMOUNT OF VEGETATION GROWING OUT OF SOIL IN BIOCELL, PER MR. KLAWINSKI SOIL WAS NOT TILLED BUT TURNED USING AN EXCAVATOR, SAC EXAMINED 4 TO 5 SOIL SAMPLES ABOUT 1 FT INTO THE CELL, NO ODORS WERE APPARENT IN THE SAMPLES TAKEN. 11/21/01:DRAFTED I LETTER.

Remarks: GROUNDWATER CONTAMINATION FOUND DOWN GRADIENT FROM FORMER TANK REMOVAL EXCAVATION.(SPILL #9309900)

All Materials:

Site ID:	108796
Operable Unit ID:	1074668
Operable Unit:	01
Material ID:	306670
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Recovered: .00
Resource Affected: Groundwater
Oxygenate: Not reported

SPILLS:
Name: CURTISS WRIGHT
Address: 60 GRIDER STREET
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 9309900 / 1994-08-12
Facility ID: 9309900
Facility Type: ER
DER Facility ID: 80393
Site ID: 87777
DEC Region: 9
Spill Cause: Deliberate
Spill Class: C3
SWIS: 1502
Spill Date: 1993-11-01
Investigator: SACALAND
Referred To: Not reported
Reported to Dept: 1993-11-12
CID: Not reported
Water Affected: Not reported
Spill Source: Commercial/Industrial
Spill Notifier: Citizen
Cleanup Ceased: 1994-08-12
Cleanup Meets Std: True
Last Inspection: 1994-03-18
Recommended Penalty: False
UST Trust: False
Remediation Phase: 0
Date Entered In Computer: 1993-11-16
Spill Record Last Update: 1994-08-12
Spiller Name: Not reported
Spiller Company: CURTISS WRIGHT
Spiller Address: 60 GRIDER STREET
Spiller Company: 001
Contact Name: Not reported
DEC Memo: COMPLAINT ABOUT STAGED SOIL IN PARKING LOT AT CURTISS WRIGHT
Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 01/26/94: FILE GIVEN TO HWR FOR COMMENT. 03/14/94: SAC SPOKE W/YAVUZ ERK AND BILL SCHMIDT/CURTISS WRIGHT,2500 CY HAS BEEN REMOVED,SAC TO INSPECT ON 3/18/94,CONFIRMATORY SAMPLING WILL BE NECESSARY. 03/18/94: SAC/BILL SCHMIDT, CURTISS WRIGHT/SITE - TYPICAL INDUSTRIAL AREA. NO SPILLAGE FOUND. AREAS FOUND EXCAVATED; 2500 CU. YDS. DISPOSED. SENT LETTER REQUIRING DISPOSAL RECEIPTS AND SAMPLING BY 6/1/94. 06/07/94: RECEIVED DISPOSAL RECEIPTS AND ANALYTICAL RESULTS,PETROLEUM CONT. RESULTS ARE BQL,CONCERN WITH PCB CLEANUP RESULTS,FILE SUBMITTED TO HWR FOR INPUT,REQUEST SENT TO HSR FOR POSSIBLE RCRA INSPECTION. 08/12/94: RECEIVED DISPOSAL RECEIPTS AND ANALYTICAL RESULTS,PETROLEUM CONT. RESULTS ARE BQL,CLOSURE LETTER SENT TO RP ON A PETROLEUM BASIS, FURTHER QUESTIONS REFERED TO M.DOSTER/DHWR.

All Materials:
Site ID: 87777

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Operable Unit ID: 988939
Operable Unit: 01
Material ID: 392547
Material Code: 0270A
Material Name: barium
Case No.: 07440393
Material FA: Other
Quantity: .00
Units: Not reported
Recovered: .00
Resource Affected: Soil
Oxygenate: Not reported

Manifest Facility Information:
EPA ID: NYD002114825
Country: USA
Name: CURTISS WRIGHT
Address: 60 GRIDER ST
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14215
Zip 4: Not reported
Location Address 1: 60 GRIDER STREET
Location Address 2: Not reported
Location City,State,Zip: BUFFALO, NY 14215
Location Zip 4: Not reported
Facility Status: Not reported
Total Tanks: Not reported
Code: BP

Mailing:
Mailing Name: CURTISS WRIGHT
Mailing Contact: WILLIAM D SCHMIDT
Mailing Address 1: 60 GRIDER STREET-ATTN: SCHMIDT
Mailing Address 2: Not reported
Mailing City,State,Zip: BUFFALO, NY 14215
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7168947770

Manifest Data:
Document ID: MIA3227195
Manifest Status: Not reported
Trans1 State ID: E37433ME
Year: 1993
Trans2 State ID: Not reported
Generator Ship Date: 05/14/1993
Trans1 Recv Date: 05/14/1993
Trans2 Recv Date: Not reported
TSD Site Recv Date: 05/14/1993
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NYD002114825
Trans1 EPA ID: NYD097644801
Trans2 EPA ID: Not reported
TSDF ID 1: MID000724831
TSDF ID 2: Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00015
Units:	Cubic Yards
Number of Containers:	001
Container Type:	Metal boxes, cartons, cases (including roll-offs)
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA3227196
Manifest Status:	Not reported
Trans1 State ID:	28601ANY
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	05/14/1993
Trans1 Recv Date:	05/14/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/14/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00015
Units:	Cubic Yards
Number of Containers:	001
Container Type:	Metal boxes, cartons, cases (including roll-offs)
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA3227306
Manifest Status:	Not reported
Trans1 State ID:	27224ANY
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	06/07/1993
Trans1 Recv Date:	06/07/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	06/10/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00015
Units:	Cubic Yards
Number of Containers:	001
Container Type:	Metal boxes, cartons, cases (including roll-offs)
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA3227319
Manifest Status:	Not reported
Trans1 State ID:	E37435
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	06/11/1993
Trans1 Recv Date:	06/11/1993

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Trans2 Recv Date:	Not reported
TSD Site Recv Date:	06/14/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	01320
Units:	Gallons (liquids only)
Number of Containers:	024
Container Type:	Metal drums, barrels, kegs
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB4061898
Manifest Status:	Not reported
Trans1 State ID:	E37435ME
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	11/19/1993
Trans1 Recv Date:	11/19/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	11/22/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD083377010
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 7:	CORROSIVE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00055
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYB4063392
Manifest Status:	Not reported
Trans1 State ID:	E37435ME
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	06/11/1993
Trans1 Recv Date:	06/11/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	06/14/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD097644801
Trans2 EPA ID:	Not reported
TSDF ID 1:	OHD083377010
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Waste Code 1:	CORROSIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00010
Units:	Gallons (liquids only)
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Treat
Specific Gravity:	01.00
Document ID:	NYB6391935
Manifest Status:	Not reported
Trans1 State ID:	NY86431Z
Year:	1993
Trans2 State ID:	Not reported
Generator Ship Date:	12/10/1993
Trans1 Recv Date:	12/10/1993
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/10/1993
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	ILD099202681
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	LEAD
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	27440
Units:	Pounds
Number of Containers:	001
Container Type:	Metal boxes, cartons, cases (including roll-offs)
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	NYB9680247
Manifest Status:	Not reported
Trans1 State ID:	AD76837NY

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Year:		2002
Trans2 State ID:		Not reported
Generator Ship Date:		05/10/2002
Trans1 Recv Date:		05/10/2002
Trans2 Recv Date:		Not reported
TSD Site Recv Date:		05/10/2002
Part A Recv Date:		Not reported
Part B Recv Date:		Not reported
Generator EPA ID:		NYD002114825
Trans1 EPA ID:		NYD982792814
Trans2 EPA ID:		Not reported
TSDF ID 1:		NYD049836679
TSDF ID 2:		Not reported
Manifest Tracking Number:		Not reported
Import Indicator:		Not reported
Export Indicator:		Not reported
Discr Quantity Indicator:		Not reported
Discr Type Indicator:		Not reported
Discr Residue Indicator:		Not reported
Discr Partial Reject Indicator:		Not reported
Discr Full Reject Indicator:		Not reported
Manifest Ref Number:		Not reported
Alt Facility RCRA ID:		Not reported
Alt Facility Sign Date:		Not reported
MGMT Method Type Code:		Not reported
Waste Code 1:	B007	
Waste Code 2:		Not reported
Waste Code 3:		Not reported
Waste Code 4:		Not reported
Waste Code 5:		Not reported
Waste Code 6:		Not reported
Quantity:		02900
Units:		Kilograms
Number of Containers:		010
Container Type:		Metal drums, barrels, kegs
Handling Method:		Burn
Specific Gravity:		01.00
Document ID:		PAE1038435
Manifest Status:		Not reported
Trans1 State ID:		Not reported
Year:		2001
Trans2 State ID:		PAAH0327
Generator Ship Date:		02/21/2001
Trans1 Recv Date:		02/21/2001
Trans2 Recv Date:		03/02/2001
TSD Site Recv Date:		03/02/2001
Part A Recv Date:		Not reported
Part B Recv Date:		Not reported
Generator EPA ID:		NYD002114825
Trans1 EPA ID:		NYR000090761
Trans2 EPA ID:		NYD980761191
TSDF ID 1:		PAD067098822
TSDF ID 2:		Not reported
Manifest Tracking Number:		Not reported
Import Indicator:		Not reported
Export Indicator:		Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	REACTIVE WASTE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00015
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00
Waste Code 7:	IGNITABLE WASTE
Waste Code 8:	Not reported
Waste Code:	Not reported
Waste Code 10:	Not reported
Waste Code 11:	Not reported
Quantity:	00150
Units:	Pounds
Number of Containers:	001
Container Type:	Metal drums, barrels, kegs
Handling Method:	Burn
Specific Gravity:	01.00

Document ID:	NYB9608742
Manifest Status:	Not reported
Trans1 State ID:	1956PANY
Year:	2002
Trans2 State ID:	Not reported
Generator Ship Date:	07/31/2002
Trans1 Recv Date:	07/31/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/02/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD046765574
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	19958
Units:	Kilograms
Number of Containers:	001
Container Type:	Metal boxes, cartons, cases (including roll-offs)
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB9608751
Manifest Status:	Not reported
Trans1 State ID:	7000B5NY
Year:	2002
Trans2 State ID:	Not reported
Generator Ship Date:	07/24/2002
Trans1 Recv Date:	07/24/2002
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/24/2002
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD002114825
Trans1 EPA ID:	NYD046765574
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	21237
Units:	Kilograms
Number of Containers:	001
Container Type:	Metal boxes, cartons, cases (including roll-offs)
Handling Method:	Landfill
Specific Gravity:	01.00

CURTISS WRIGHT CORPORATION (Continued) **1000413812**

Click this hyperlink while viewing on your computer to access
132 additional NY MANIFEST: record(s) in the EDR Site Report.

U92 **ATLANTIC** **UST FINDER RELEASE** **1029057829**
NE **755 EAST DELAVAN STREET** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.395 mi.
2084 ft. **Site 1 of 7 in cluster U**

Relative:
Higher

Actual:
661 ft.

UST FINDER RELEASE:

Object ID:	244196
Facility ID:	NY116481
Lust ID:	NY9307161
Name:	ATLANTIC
Address:	755 EAST DELAVAN STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1993/09/13 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1655
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8290699999999
Y Coord:	42.92209
Latitude:	42.9220899999999
Longitude:	-78.82907

U93 **SUN #0364-1446** **UST FINDER RELEASE** **1029062024**
NE **755 EAST DELAVAN AVENUE** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.395 mi.
2084 ft. **Site 2 of 7 in cluster U**

Relative: **Higher**
Actual: **661 ft.**

UST FINDER RELEASE:

Object ID:	244197
Facility ID:	NY168142
Lust ID:	NY9401471
Name:	SUN #0364-1446
Address:	755 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1994/04/01 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1655
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8290699999999
Y Coord:	42.92209
Latitude:	42.9220899999999
Longitude:	-78.82907

U94 **SUN 0364-1446** **UST FINDER RELEASE** **1029057830**
NE **755 EAST DELAVAN STREET** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.395 mi.
2084 ft. **Site 3 of 7 in cluster U**

Relative: **Higher**
Actual: **661 ft.**

UST FINDER RELEASE:

Object ID:	244198
Facility ID:	NY116481
Lust ID:	NY9613167
Name:	SUN 0364-1446
Address:	755 EAST DELAVAN STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1997/02/01 15:59:59+00
Status:	No Further Action

SUN 0364-1446 (Continued) **1029057830**

Substance:	Not reported
Population within 1500ft:	1655
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8290699999999
Y Coord:	42.92209
Latitude:	42.9220899999999
Longitude:	-78.82907

U95 **A-PLUS MINI MARKET** **UST FINDER RELEASE** **1029062022**
NE **755 EAST DELAVAN AVENUE** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.395 mi.
2084 ft. **Site 4 of 7 in cluster U**

Relative:
Higher

Actual:
661 ft.

UST FINDER RELEASE:

Object ID:	244195
Facility ID:	NY168142
Lust ID:	NY8904646
Name:	A-PLUS MINI MARKET
Address:	755 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1989/08/09 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1655
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601

A-PLUS MINI MARKET (Continued) **1029062022**

Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8290699999999
Y Coord:	42.92209
Latitude:	42.9220899999999
Longitude:	-78.82907

U96 **ATLANTIC** **UST FINDER RELEASE** **1029062023**
NE **755 EAST DELAVAN AVENUE** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.395 mi.
2084 ft. **Site 5 of 7 in cluster U**

Relative: **Higher**
Actual: **661 ft.**

UST FINDER RELEASE:

Object ID:	244194
Facility ID:	NY168142
Lust ID:	NY8900518
Name:	ATLANTIC
Address:	755 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1989/04/17 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1655
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8290699999999
Y Coord:	42.92209
Latitude:	42.9220899999999
Longitude:	-78.82907

U97 **A PLUS MINI MART** **UST FINDER RELEASE** **1029067410**
NE **755 EAST DELAVAN** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.395 mi.
2084 ft. **Site 6 of 7 in cluster U**

Relative: **Higher**
Actual: **661 ft.**

UST FINDER RELEASE:

Object ID:	244193
Facility ID:	NY234451
Lust ID:	NY8807958
Name:	A PLUS MINI MART
Address:	755 EAST DELAVAN
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1989/01/03 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1655
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.8290699999999
Y Coord:	42.92209
Latitude:	42.9220899999999
Longitude:	-78.82907

U98 **HASSELBACK OIL CO. INC** **NY LTANKS** **S104497705**
NE **755 EAST DELAVAN AVE** **NY Spills** **N/A**
1/4-1/2 **BUFFALO, NY 14215**
0.395 mi.
2084 ft. **Site 7 of 7 in cluster U**

Relative: **Higher**
Actual: **661 ft.**

LTANKS:

Name:	ATLANTIC
Address:	755 EAST DELAVAN STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9307161 / 1993-09-17
Facility ID:	9307161
Site ID:	135654
Spill Date:	1993-09-13
Spill Cause:	Tank Test Failure
Spill Source:	Gasoline Station or other PBS Facility

HASSELBACK OIL CO. INC (Continued) **S104497705**

Spill Class:	C3
Cleanup Ceased:	1993-09-17
SWIS:	1502
Investigator:	RMCROSSE
Referred To:	Not reported
Reported to Dept:	1993-09-13
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Tank Tester
Last Inspection:	1993-09-17
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1993-09-13
Spill Record Last Update:	2002-03-18
Spiller Name:	Not reported
Spiller Company:	SUN COMPANY
Spiller Address:	Not reported
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	116481
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was RMC 09/17/93: RMC/SITE CONTRACTOR FOUND PROBLEM AT PUMP, LINE REPAIRED, LESS THAN YARD OF CONTAMINED SOIL, TOTAL STATION REFIT NEXT YEAR, NO ACTION REQUIRED, CLOSE OUT.
Remarks:	TANK TEST FAILURE.

All TTF:

Facility ID:	9307161
Spill Number:	9307161
Spill Tank Test:	1541984
Site ID:	135654
Tank Number:	Not reported
Tank Size:	0
Material:	0009
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	00
Test Method 2:	Unknown
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	135654
Operable Unit ID:	988244
Operable Unit:	01
Material ID:	393433
Material Code:	0009
Material Name:	gasoline

HASSELBACK OIL CO. INC (Continued) **S104497705**

Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	L
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

SPILLS:

Name:	A PLUS MINI MART
Address:	755 EAST DELAVAN
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8807958 / 1989-01-04
Facility ID:	8807958
Facility Type:	ER
DER Facility ID:	234451
Site ID:	289523
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	1989-01-03
Investigator:	COOKE
Referred To:	Not reported
Reported to Dept:	1989-01-03
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	Responsible Party
Cleanup Ceased:	1989-01-04
Cleanup Meets Std:	True
Last Inspection:	1989-01-04
Recommended Penalty:	False
UST Trust:	True
Remediation Phase:	0
Date Entered In Computer:	1989-01-09
Spill Record Last Update:	2002-03-18
Spiller Name:	Not reported
Spiller Company:	ATLANTIC REFINING
Spiller Address:	Not reported
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	LEAKING FILTER ON DISPENSER CAUSED SPILL
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was JDC 01/04/89: FIRE DEPARTMENT APPLIED PADS DRY TO SPILL AREA. PADS DISPOSED OF BY FIRE DEPT.

All Materials:

Site ID:	289523
Operable Unit ID:	923441
Operable Unit:	01
Material ID:	452731
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum

HASSELBACK OIL CO. INC (Continued) **S104497705**

Quantity:	4.00
Units:	G
Recovered:	3.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	HASSELBACK OIL CO
Address:	755 E DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14215
Spill Number/Closed Date:	1904228 / Not Reported
Facility ID:	1904228
Facility Type:	ER
DER Facility ID:	51746
Site ID:	592213
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2019-07-18
Investigator:	VMKREUTZ
Referred To:	Not reported
Reported to Dept:	Not reported
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	DEC
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	Not reported
UST Trust:	Not reported
Remediation Phase:	1
Date Entered In Computer:	2019-07-23
Spill Record Last Update:	2019-07-23
Spiller Name:	Not reported
Spiller Company:	Not reported
Spiller Address:	Not reported
Spiller Company:	Not reported
Contact Name:	CARL HASSELBACK
DEC Memo:	Not reported
Remarks:	Not reported

Name:	HASSELBACK OIL CO. INC
Address:	755 EAST DELAVAN AVE
City,State,Zip:	BUFFALO, NY 14215
Spill Number/Closed Date:	1904269 / 2019-07-18
Facility ID:	1904269
Facility Type:	ER
DER Facility ID:	542359
Site ID:	592256
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2019-07-18
Investigator:	VMKREUTZ

HASSELBACK OIL CO. INC (Continued) **S104497705**

Referred To:	Not reported
Reported to Dept:	2019-07-18
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	DEC
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	Not reported
Remediation Phase:	0
Date Entered In Computer:	2019-07-24
Spill Record Last Update:	2019-08-30
Spiller Name:	Not reported
Spiller Company:	Not reported
Spiller Address:	Not reported
Spiller Company:	Not reported
Contact Name:	CARL HASSELBACK
DEC Memo:	Not reported
Remarks:	Failed spill bucket tests

Name:	SUN 0364-1446
Address:	755 EAST DELAVAN STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9613167 / 1998-05-11
Facility ID:	9613167
Facility Type:	ER
DER Facility ID:	116481
Site ID:	135655
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	B3
SWIS:	1502
Spill Date:	1997-02-01
Investigator:	RMCROSSE
Referred To:	Not reported
Reported to Dept:	1997-02-06
CID:	366
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	1997-12-15
Recommended Penalty:	False
UST Trust:	True
Remediation Phase:	0
Date Entered In Computer:	1997-02-06
Spill Record Last Update:	2002-03-18
Spiller Name:	DAVE BENDER
Spiller Company:	SUN COMPANY
Spiller Address:	301 WEST HIAWATHA BLVD
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	SITE ASSESSMENT DISCOVERED CONTAMINATED, REPORT TO FOLLOW
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was

HASSELBACK OIL CO. INC (Continued) **S104497705**

RMC 02/06/97 RMC/FILE PREVIOUS SPILLS AT SITE WERE 8807958, 8900518, 8904646, 9401471, AND 9307161 02/06/97 RMC/DAVE BENDER/PHONE PREVIOUS INACTIVE SITE, SAMPLED WELLS, CONTAMINATION FOUND, REPORT TO FOLLOW, DUE 3/15/97 04/08/97 RMC/FILE SUN MEETING, REPORT OVERDUE, DUE 4/30/97 05/12/97 RMC/FILE RECEIVED REPORT, MW1 TOO HIGH FOR INACTIVE, REQUESTED SUN TO RESAMPLE, DUE 7/1/97 07/31/97 RMC/FILE RECEIVED REPORT, LEVELS IN MWI WHILE DECREASED ARE STILL TOO HIGH FOR INACTIVE, NEXT ROUND DUE 10/31/97 11/03/97 RMC/FILE RECEIVED REPORT, LEVELS DECREASING, NEXT ROUND DUE 1/30/98 02/06/98 RMC/FILE RECEIVED REPORT, LEVELS AGAIN DECREASED, MTBE INCLUDED, NEXT ROUND DUE 5/1/98 05/11/9+8 RMC/FILE RECEIVED REPORT, LEVELS DECREASED AND APPEAR TO BE STABLE OVER TIME, SITE TO BE MADE INACTIVE PER RNL, LETTER, INACTIVE

All Materials:

Site ID:	135655
Operable Unit ID:	1044682
Operable Unit:	01
Material ID:	341813
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

Name:	ATLANTIC
Address:	755 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8900518 / 1989-04-18
Facility ID:	8900518
Facility Type:	ER
DER Facility ID:	168142
Site ID:	202120
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	1989-04-17
Investigator:	FIX
Referred To:	Not reported
Reported to Dept:	1989-04-17
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	Responsible Party
Cleanup Ceased:	1989-04-18
Cleanup Meets Std:	True
Last Inspection:	1989-04-18
Recommended Penalty:	False
UST Trust:	True
Remediation Phase:	0
Date Entered In Computer:	1989-04-17
Spill Record Last Update:	2002-03-18
Spiller Name:	Not reported

HASSELBACK OIL CO. INC (Continued) **S104497705**

Spiller Company: ATLANTIC REFINING
Spiller Address: Not reported
Spiller Company: 001
Contact Name: Not reported
DEC Memo: SEAL ON WIRES ON PUMP LEAKED.(FUMES).USED SORBENTS TO CLEANUP SPILL.
Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was
CAF 04/18/89: CAF SITE VISIT WITH KAREN GRAY,REPLACED SEAL,CLEANUP WITH PADS.NO FURTHER ACTION PLANNED.

All Materials:
Site ID: 202120
Operable Unit ID: 926803
Operable Unit: 01
Material ID: 451859
Material Code: 0009
Material Name: gasoline
Case No.: Not reported
Material FA: Petroleum
Quantity: 2.00
Units: G
Recovered: 2.00
Resource Affected: Soil
Oxygenate: Not reported

Name: A-PLUS MINI MARKET
Address: 755 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 8904646 / 1989-08-10
Facility ID: 8904646
Facility Type: ER
DER Facility ID: 168142
Site ID: 202121
DEC Region: 9
Spill Cause: Equipment Failure
Spill Class: Not reported
SWIS: 1502
Spill Date: 1989-08-09
Investigator: LYONS
Referred To: Not reported
Reported to Dept: 1989-08-09
CID: Not reported
Water Affected: Not reported
Spill Source: Gasoline Station or other PBS Facility
Spill Notifier: Responsible Party
Cleanup Ceased: 1989-08-09
Cleanup Meets Std: True
Last Inspection: 1989-08-10
Recommended Penalty: False
UST Trust: True
Remediation Phase: 0
Date Entered In Computer: 1989-08-10
Spill Record Last Update: 2002-03-18
Spiller Name: Not reported
Spiller Company: A-PLUS MINI MARKET
Spiller Address: 755 EAST DELAVAN AVENUE
Spiller Company: 001
Contact Name: Not reported

HASSELBACK OIL CO. INC (Continued) **S104497705**

DEC Memo: HANDLE CAME LOOSE FROM DISPENSER HOSE SPILLING GAS.
Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was MEL 08/09/89: MEL TELCON W/ASSISTANT MANAGER. BUFFALO FIRE DEPT. RESPONDED AND WASHED PRODUCT INTO SEWER. FAULTY DISPENSOR TAKEN OUT OF SERVICE. 08/10/89: MEL INSPECTION. SPILL CLEANED UP. SEWERS YIELDED NO READINGS WITH MSA 260. PUMP STILL OUT OF SERVICE. NO FURTHER SPILL INVOLVEMENT NECESSARY. RECOMMEND FILE BE CLOSED.

All Materials:
Site ID: 202121
Operable Unit ID: 932243
Operable Unit: 01
Material ID: 448684
Material Code: 0009
Material Name: gasoline
Case No.: Not reported
Material FA: Petroleum
Quantity: 2.00
Units: G
Recovered: .00
Resource Affected: Soil
Oxygenate: Not reported

Name: SUN #0364-1446
Address: 755 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 9401471 / 1995-12-28
Facility ID: 9401471
Facility Type: ER
DER Facility ID: 168142
Site ID: 202122
DEC Region: 9
Spill Cause: Equipment Failure
Spill Class: B3
SWIS: 1502
Spill Date: 1994-04-01
Investigator: RMCROSSE
Referred To: Not reported
Reported to Dept: 1994-04-27
CID: Not reported
Water Affected: Not reported
Spill Source: Gasoline Station or other PBS Facility
Spill Notifier: Responsible Party
Cleanup Ceased: Not reported
Cleanup Meets Std: False
Last Inspection: 1994-05-04
Recommended Penalty: False
UST Trust: True
Remediation Phase: 0
Date Entered In Computer: 1994-05-03
Spill Record Last Update: 2002-03-18
Spiller Name: Not reported
Spiller Company: SUN COMPANY
Spiller Address: 301 WEST HIAWATHA BLVD
Spiller Company: 001
Contact Name: Not reported
DEC Memo: FAILED LINES ON UST.

HASSELBACK OIL CO. INC (Continued) **S104497705**

Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was RMC 05/04/94: RMC/SITE ROB MATRIX/PHONE SIGNIFICANT CONTAMINATION IN FORMER TANK PIT AND AROUND ISLANDS, RP TO DECIDE ON DIG TO CLEAN ATTEMPT OR POST REMEDIATION, ANSWER DUE 5/9/94. 05/13/94: RMC/SITE SUN TRYING TO DIG TO CLEAN, MATERIAL BEING TAKEN DIRECTLY TO LAKEVIEW, SHEEN ON WATER IN EXCAVATION , DOWN TO BED ROCK REPORT DUE 6/30/94. 07/20/94: RMC/SITE SUN TRYING TO DIG TO CLEAN, MATERIAL BEING TAKEN DIRECTLY TO LAKEVIEW, SHEEN ON WATER IN EXCAVATION , DOWN TO BED ROCK REPORT DUE 6/30/94REVISED TO 8/30/94. 10/12/94: RMC/SITE SUN TRYING TO DIG TO CLEAN, MATERIAL BEING TAKEN DIRECTLY TO LAKEVIEW, SHEEN ON WATER IN EXCAVATION , DOWN TO BED ROCK REPORT DUE 6/30/94REVISED TO10/30/94. 11/29/94: RMC/BENDER/MEETING TO SEND REPORT, ADDITIONAL WORK PLANNED, DUE 1/1/95. 12/13/94: RMC/RECEIVED REPORT, TO DO GROUND WATER SAMPLING, DUE 2/1/95. 02/01/95: RMC/RECEIVED REPORT, TO DO GROUND WATER SAMPLING, DUE 2/1/95REVISED TO 3/1/95. 03/10/95: RMC/RECEIVED REPORT, TO DO GROUND WATER SAMPLING, DUE 2/1/95REVISED TO 3/1/95REVISED TO3/30/95. 03/29/95: RMC/LETTER/RESPONSE DUE 5/1/95. 04/19/95: RMC/SUN MEETING TO SAMPLE TWO WELLS, RESULTS DUE 5/30/95 07/18/95: RMC/LETTER RESPONSE DUE 8/18/95. 10/95 SUN MEETING SAMPLING OVERDUE, AND WAS DONE 9/95, RESULTS DUE 11/30/95 12/28/95 RMC/RECEIVED MW SAMPLING REPORT, MINOR EXCEEDANCES IN NEW AND OIL TANK FIELD, INACTIVE

All Materials:

Site ID:	202122
Operable Unit ID:	995216
Operable Unit:	01
Material ID:	385227
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

V99 **473 EAST DELEVAN INC.** **UST FINDER RELEASE** **1029078997**
ESE **966 EAST FERRY STREET** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.435 mi.
2297 ft. **Site 1 of 5 in cluster V**

Relative:
Higher

Actual:
644 ft.

UST FINDER RELEASE:

Object ID:	244209
Facility ID:	NY86852
Lust ID:	NY8904784
Name:	473 EAST DELEVAN INC.
Address:	966 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1989/08/11 16:00:00+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	2024
Domestic Wells within 1500ft:	0

473 EAST DELEVAN INC. (Continued) **1029078997**

Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.82757
Y Coord:	42.91452
Latitude:	42.91452
Longitude:	-78.8275699999999

V100 **EAST SIDE AUTO SERVICE** **UST FINDER** **1028596400**
ESE **966 EAST FERRY** **UST FINDER RELEASE** **N/A**
1/4-1/2 **BUFFALO, NY 14215**
0.435 mi.
2297 ft. **Site 2 of 5 in cluster V**

Relative: **Higher**
Actual: **644 ft.**

UST FINDER:

Object ID:	315865
Facility ID:	NY52847
Name:	EAST SIDE AUTO SERVICE
Address:	966 EAST FERRY
City,State,Zip:	BUFFALO, NY 14215
Address Match Type:	Not reported
Open USTs:	0
Closed USTs:	3
TOS USTs:	0
Population 1500ft:	1955
Private Wells 1500ft:	0
Within 100yr Floodplain:	No
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Facility Status:	Closed UST(s)
Date of Last Inspection:	Not reported
EPA Region:	2

EAST SIDE AUTO SERVICE (Continued) **1028596400**

Tribe: Not reported
Coordinate Source: State
X Coord: -78.827979
Y Coord: 42.914699
Latitude: 42.914699
Longitude: -78.827979

UST FINDER:
Object ID: 1306782
Facility ID: NY52847
Tank ID: NY90650
Tank Status: Closed
Installation Date: 1972/05/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 8000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1306783
Facility ID: NY52847
Tank ID: NY93048
Tank Status: Closed
Installation Date: 1972/05/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 3000
Substances: Not reported
Tank Wall Type: Not reported

Object ID: 1306784
Facility ID: NY52847
Tank ID: NY95843
Tank Status: Closed
Installation Date: 1972/05/01 16:00:00+00
Removal Date: Not reported
Tank Capacity: 3000
Substances: Not reported
Tank Wall Type: Not reported

UST FINDER RELEASE:
Object ID: 244206
Facility ID: NY258510
Lust ID: NY8800920
Name: EAST SIDE AUTO SERVICE
Address: 966 EAST FERRY
City,State,Zip: BUFFALO, NY 0
Address Match Type: Not reported
Reported Date: 1988/04/29 16:00:00+00
Status: No Further Action
Substance: Not reported
Population within 1500ft: 1963
Domestic Wells within 1500ft: 0
Land Use: Developed, Medium Intensity
Within SPA: No
SPA PWS Facility ID: Not reported
SPA Water Type: Not reported
SPA Facility Type: Not reported

EAST SIDE AUTO SERVICE (Continued) **1028596400**

SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.82795
Y Coord:	42.91454
Latitude:	42.91454
Longitude:	-78.82795

V101 **MDM PETROLEUM** **UST FINDER RELEASE** **1029078998**
ESE **966 EAST FERRY STREET** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.435 mi.
2297 ft. **Site 3 of 5 in cluster V**

Relative:
Higher

Actual:
644 ft.

UST FINDER RELEASE:

Object ID:	244210
Facility ID:	NY86852
Lust ID:	NY9203990
Name:	MDM PETROLEUM
Address:	966 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1992/07/06 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	2024
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported

MDM PETROLEUM (Continued) **1029078998**

Coordinate Source:	State
X Coord:	-78.82757
Y Coord:	42.91452
Latitude:	42.91452
Longitude:	-78.8275699999999

V102 **FORMER MDM PETROLEUM** **UST FINDER RELEASE** **1029069382**
ESE **966 EAST FERRY** **N/A**
1/4-1/2 **BUFFALO, NY 0**
0.435 mi.
2297 ft. **Site 4 of 5 in cluster V**

Relative:
Higher

Actual:
644 ft.

UST FINDER RELEASE:

Object ID:	244207
Facility ID:	NY258510
Lust ID:	NY9609655
Name:	FORMER MDM PETROLEUM
Address:	966 EAST FERRY
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1996/10/15 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1963
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.82795
Y Coord:	42.91454
Latitude:	42.91454
Longitude:	-78.82795

V103 **473 EAST DELEVAN INC.** **NY LTANKS** **S100493723**
ESE **966 EAST FERRY STREET** **NY Spills** **N/A**
1/4-1/2 **BUFFALO, NY**
0.435 mi.
2297 ft. **Site 5 of 5 in cluster V**

Relative:
Higher

Actual:
644 ft.

LTANKS:

Name:	EAST SIDE AUTO SERVICE
Address:	966 EAST FERRY
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8800920 / 1988-05-03
Facility ID:	8800920
Site ID:	320884
Spill Date:	1988-04-29
Spill Cause:	Tank Overfill
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	Not reported
Cleanup Ceased:	1988-05-03
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1988-04-29
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Fire Department
Last Inspection:	1988-05-03
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1988-05-04
Spill Record Last Update:	1988-05-04
Spiller Name:	Not reported
Spiller Company:	QUAL-ENCON LEASING CO.
Spiller Address:	2320 WEST OAKFIELD
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	258510
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 04/29/88: 4/29/88 MNP TELECON W/F.D. PADS & PILLOWS BEING USED TO CONTAIN SPILL, PRODUCT ENTERED SEWER, THEY ALREADY NOTIFIED BSA;4/29/88 MNP INSP. FD. & BSA CLEANING UP SPILL W/SORBANTS. 05/03/88: 5/3/88 MNP INSP. CLEANUP SATISFACTORY, NO FURTHER ACTION NEEDED, COMPLETE.
Remarks:	GASOLINE SPILLED DURING FUEL DELIVERY AT GAS STATION

All TTF:

Facility ID:	8800920
Spill Number:	8800920
Spill Tank Test:	1533789
Site ID:	320884
Tank Number:	Not reported
Tank Size:	0
Material:	0009
EPA UST:	Not reported
UST:	Not reported
Cause:	02

473 EAST DELEVAN INC. (Continued) **S100493723**

Source:	Not reported
Test Method:	00
Test Method 2:	Unknown
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	320884
Operable Unit ID:	917911
Operable Unit:	01
Material ID:	460081
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	200.00
Units:	G
Recovered:	25.00
Resource Affected:	Sewer
Oxygenate:	Not reported

Name:	FORMER MDM PETROLEUM
Address:	966 EAST FERRY
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9609655 / 1998-05-28
Facility ID:	9609655
Site ID:	320885
Spill Date:	1996-10-15
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	B3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	LEARY
Referred To:	Not reported
Reported to Dept:	1996-11-01
CID:	266
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	1997-11-30
Recommended Penalty:	False
Meets Standard:	False
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1996-11-01
Spill Record Last Update:	1998-08-28
Spiller Name:	MIKE ABUHAMRA
Spiller Company:	MIKE ABUHAMRA
Spiller Address:	24 PALM STREET
Spiller County:	001
Spiller Contact:	TED KOSIOREK - IR&F
Spiller Phone:	(716) 895-1880
Spiller Extention:	Not reported
DEC Region:	9

473 EAST DELEVAN INC. (Continued) **S100493723**

DER Facility ID: 258510
DEC Memo: Prior to Sept, 2004 data translation this spill Lead_DEC Field was
RNL 12/05/96: RMC/GREGG WEBBER/PHONE MNP SPILL UNABLE TO CONTACT, DIGGING BEGUN 12/4 . AREA OF CONTAMINATION LARGER THAN EXPECTED, WANT DEC TO INSPECT, REMOVED SOIL IN 12 BY 20 BY 10 FOOT AREA. 12/5/96 RMC/NATURES WAY/SITE AREA OF CONTAMINATION APPEARS TO BE MUCH DEEPER THAN IDENTIFIED IN SOIL BORINGS, CONTAMINATION HAS PENETRATED SEVERAL FEET INTO VIRGIN SIOL. ESTIMATE EXCAVATION 10 PERCENT COMPLETE WITH 75 TONS ALREADY REMOVED. 12/6/96 RMC/WEBBER/PHONE RP WAS ADVISED BY NATURES WAY OF ADDITIONAL SCOPE OF WORK REQUIRED, NATURES WAY TO CONTACT MNP WITH SITE PLANS BY 12/13/96. 12/18/96: MNP INSP. EXCAVATION IN FRONT OF BUILDING, NEARLY FILLED W/ WATER & HAS A FILM OF OIL PRODUCT ON THE SURFACE. CONTAMINATED SOIL PILE STAGED ON PLASTIC ON WEST SIDE OF BLDG. 12/27/96: MNP TELECON W/ TOM WOELFE - NATURE'S WAY. THEY STARTED DIGGING WEST OF CURRENT EXCAVATION WHICH IS NEARLY FILLED W/ WATER. WORK TO CONTINUE TOMORROW (SATURDAY) & 12/30/96 (MON.), BIO-PILE WILL BE CONSTRUCTED FOR CONTAMINATED SOIL & WATER TO BE PUMPED INTO TEMPORARY TANKS UNTIL SAMPLED & DISCHARGE APPROVED BY BSA. MNP TO INSP. MON. PM. 12/30/96: MNP INSP. MET W/ TOM WOELFE - NATURE'S WAY. OVER 500 YDS. GASOLINE CONTAM. SOIL ALREADY EXCAVATED. BOTTOM OF EAST EXCAVATION DOWN TO BEDROCK & APPEARS TO BE OK. HOWEVER, SOIL ALONG SOUTH SIDE OF EXCAVTION TOARD STREET STILL HAS STRONG GASOLINE ODOR. WATER BEING PUMPED FROM MIDDLE EXCAVATION INTO TANKER, THEN FILTERED THROUGH CARBON DRUM INTO TANK ON SITE. SAMPLES OF FILTERED WATER TAKEN FOR ANALYSIS BEFORE DISCHARGING. MORE EXCAATION TO BE DONE IN MIDDLE EXCAVATION. SAMPLES TO BE COLLECTED FROM BOTTOM & SIDES, 3 & 7 RESPECTIVELY. MW'S WILL BE REQUIRED BECAUSE OF GASOLINE PRODUCT STILL SEEPING INTO EXCAV. FROM UNDER BUILDING. ALSO, MW'S MAY B NEEDED ALONG SOUTH SIDE OF EXCAVATION, IF ADDITIONAL SOIL IS NOT REMOVED. ALSO, FURTHER SITE ASSESSMENT MAY BE REQUIRED. SOIL BEING STAGED ON HAY & PLASTIC 2-3 FT DEEP FOR BIOREMEDIATION. 01/06/96: MNP TELECON W/ GREG WEBER - NWI. SEVERAL HUNDRED YARDS OF GASOLINE CONTAMINATED SOIL EXCAVATED BETWEEN BUILDING & E. FERRY ST. 2 TRUCKLOADS OF CONTAMINATED SOIL TAKEN TO 56 CLYDE ST, BUFFALO (PROPERTY OWNED BY INDUSTRIAL REALTY & FUNDING). WEBER SAID BOTTOM & SIDE SAMPLES COLLECTED & BEING SENT TO EXPRESS LAB FOR ANALYSIS. EXCAVATION BACKFILLED, NO MW'S INSTALLED AS I HAD DISCUSSED W/ TOM WOELFE. I EXPLAINED MY CONCERNS THAT A MW (OR MW'S) MAY BE NEEDED BECAUSE OF THE PRODUCT SEEPING INTO THE EXCAVATION FROM UNDER THE BUILDING ON THE NORTH SIDE. 01/06/96: MNP TELECON W/ TED KOSIOREK - INDUSTRIAL REALTY & FUNDING, INC., PO BOX 1011, BUFFALO, NY 14240, PH# (716)895-1880. HIS COMPANY IS FINANCING THE CLEANUP BY NATURE'S WAY. KOSIOREK SAID IR&F SOLD THE THE PROPERTY TO MIKE ABUHAMRA 3 YEARS AGO. THEY PLAN TO SETTLE COSTS BETWEEN THEM, MDM PETROLEUM & ABUHAMRA. I WILL CC CORRESPONDENCE TO IR&F & NWI. 10/02/97: MNP REVIEWED SAMPLE RESULTS FOR BIO-REMEDIATION PILES. SOME VOLATILES DETECTED, BUT ALL WERE BELOW STARS #1. SITE NEEDS TO BE INSPECTED BEFORE CLOSURE. 11/05/97: MNP INSP. CHECKED SOIL PILE BEHIND BUILDING. GASOLINE ODORS NOTED IN WEST END OF PILE, REST OF PILE OK. ALSO, CHECKED SOIL AT 56 CLYDE AVE SITE, NO ODORS NOTED. 11/30/97: RNL INSPECTION, DUG SEVERAL LOCATIONS, NO ODORS OR SHEENS NOTED, BASED ON SAMPLE RESULTS, CLOSEOUT 02/19/98: RNL NOTE, MNP SENT CLOSURE LETTER TO MIKE ABUHAMRA 05/30/98: RNL UPDATE, RECIEVED QUERY FROM CITY ABOUT SOIL ON SITE, I CHECKED FILE AND FOUND IT NOT TO BE CLOSED, CLOSED FILE, SENT LETTER TO CITY ABOUT SOIL, COULD STAY ON SITE OR BE REUSED, MET OUR SOIL GUIDANCE VALUES
Remarks: SOIL BORINGS INDICATE CONTAMINATION.

473 EAST DELEVAN INC. (Continued) **S100493723**

All Materials:

Site ID:	320885
Operable Unit ID:	1037616
Operable Unit:	01
Material ID:	345391
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

Name:	473 EAST DELEVAN INC.
Address:	966 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8904784 / 1990-11-05
Facility ID:	8904784
Site ID:	97531
Spill Date:	1989-08-11
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	Not reported
Cleanup Ceased:	1990-11-05
SWIS:	1502
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	1989-08-11
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	DEC
Last Inspection:	1990-06-22
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1989-08-14
Spill Record Last Update:	1990-11-21
Spiller Name:	Not reported
Spiller Company:	473 EAST DELEVAN INC.
Spiller Address:	2320 WEST OAKFIELD
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	86852
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MF 08/11/89: MONITORING WELL CLEAN. CONTAMINATED SOIL EXCAVATED. TANK OPENED AND CLEANED ON SITE. -MARK SORGI-. 08/30/89: MF TELECON JIM BRIER, HE CLAIMED HE IS MEETING WITH NATURES WAY 9/189 & WOULD LIKE AN EXTENSION ON THE DATE GIVEN TO HIM IN THE LETTER SENT 8/17/89. I GAVE HIM UNTILL 9/15/89 TO MAKE UP HIS MIND. 09/25/89: MF SITE VISIT, CONTAMINATED SOIL ON SITE, COVERED WITH PLASTIC (APPX 80 YARDS).

473 EAST DELEVAN INC. (Continued) **S100493723**

TELECON RUSS SAVAGE HE CLAIMED HE HAS A SIGNED CONTRACT WITH JIM BRIER FOR BIOREMEDIATION. 09/25/89: MF SITE VISIT, SOILSTILL ON PLASTIC. SPOKE TO THE MANAGER, HE CLAIMED SOIL IS STILL BEING TREATED & IT WILL BE FOR A FEW MORE MONTHS. 11/05/90: MF RECEIVED ANALYTICAL RESULTS FOR THE TREATED SOIL. NO FURTHER ACTION NECESSARY. LETTER SENT TO NATURES WAY.

Remarks: CONTAMINATED SOIL FOUND DURING ROUTINE TANK REMOVAL.

All Materials:

Site ID:	97531
Operable Unit ID:	932398
Operable Unit:	01
Material ID:	448814
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	200.00
Units:	G
Recovered:	190.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

Name:	MDM PETROLEUM
Address:	966 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9203990 / 1994-12-05
Facility ID:	9203990
Site ID:	97532
Spill Date:	1992-07-06
Spill Cause:	Tank Test Failure
Spill Source:	Gasoline Station or other PBS Facility
Spill Class:	B3
Cleanup Ceased:	1994-12-05
SWIS:	1502
Investigator:	PRINGLE
Referred To:	Not reported
Reported to Dept:	1992-07-06
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Tank Tester
Last Inspection:	1994-06-16
Recommended Penalty:	True
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1992-07-21
Spill Record Last Update:	2000-12-20
Spiller Name:	Not reported
Spiller Company:	MDM PETROLEUM
Spiller Address:	2320 WEST OAKFIELD
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	86852

473 EAST DELEVAN INC. (Continued) **S100493723**

DEC Memo: Prior to Sept, 2004 data translation this spill Lead_DEC Field was MNP 07/08/92: 7/8/92 MNP INSP. TANK FULL OF WATER, 4 DRUMS OF GASOLINE & WATER ON SITE. 03/11/93: 3/11/93 MNP INSP. EXCAVATION STILL OPEN. NO VISIBLE OIL OR SHEEN IN HOLE. PILE OF CONTAM. SOIL & 5 DRUMS REMAIN ON SITE. 04/16/93: 4/16/93 MNP INSP. EXCAVATION PARTIALLY BACKFILLED. CONTAM. SOIL PILE MOVED TO REAR OF PROPERTY. CONTAM. SOIL ALLEGEDLY PUT BACK IN HOLE. HIRED EP&S TO COLLECT SAMPLES FOR ANALYSIS. 05/03/93: 5/3/93 MNP INSP. MORE SOIL DUMPED INTO HOLE. EXCAVATION STILL ONLY PARTIALLY BACKFILLED. PILE OF CONTAM. SOIL UNCOVERED, NO TREATMENT UNDERWAY. 07/09/93: 7/9/93 MNP OFFICE MEETING W/ MIKE BLAKE - BUFF. F.D. BLDG. TO BE VACANT. DRUMS OF GASOLINE STILL ON SITE, PILE OF CONTAM. SOIL REMAINS UNCOVERED WITHOUT TREATMENT. 10/22/93: 10/22/93 MNP INSP. BLDG. VACANT. EXCAVATION BACKFILLED. 5 DRUMS OF GASOLINE & WATER GONE. CONTAM. SOIL PILE REMAINS UNCOVERED. WASTE OIL SPILLAGE & 3 DRUMS WEST END OF BLDG., SEE VIDEO. 01/31/94: MNP/SITE - ABANDONED GAS STATION. NO SOIL ON SITE; NO EXCAVATIONS BACKFILLED. DRUMS STILL ON-SITE. 7 55-GAL. DRUMS FULL. 2 EMPTY 55-GAL. DRUMS. 02/23/94: MNP - 2/23/94 SITE VISIT - DRUMS STILL AT SITE. 03/04/94: 513.26 TONS OF SOIL DISPOSED PER RECEIPT. DRUMS OF GAS DISPOSED PER RECEIPT. WAITING FOR NATURE'S WAY TO DISPOSE OF FULL DRUMS ON SITE. 05/31/94: MNP SITE VISIT 5/31/94. TWO 55 GAL DRUMS FULL OF LIQUID/PETROLEUM FOUND. ONE WAS TIPPED OVER AND SPILLED PETROLEUM TO THE GROUND-APPROXIMATELY 20 GALLONS. 06/02/94: MNP SITE VISIT 6/2/94. NO CLEANUP HAS TAKEN PLACE AS OF YET. LETTER TO BE SENT ON SPILL. 06/03/94: H. SCHECTMAN CALLED AND SAID THAT HE VISITED THE SITE AND THE DRUMS HAVE BEEN REMOVED AND SPEEDI DRY PLACED ON SPILL AND WILL BE PICKED UP AND DISPOSED. 06/17/94: MNP SITE VISIT 6/16/94. OIL SPILL HAS BEEN CLEANED AND DRUMS REMOVED. WAITING FOR DISPOSAL RECEIPTS TO CLOSE SPILL. 07/13/94: LETTER SENT TO SCHECTMAN/GEIGER. REQUESTED OIL DISPOSAL RECEIPTS. DUE BY 7/27/94. 09/30/94: H. SCHECTMAN LTR-DRUM OF OIL STORED IN BLDG & WILL BE DISPOSED OF. 12/05/94: RECD DISPOSAL RECPT FOR DRUM OF OIL FROM SITE. ALL WORK AT SITE HAS BEEN COMPLETED. NO FURTHER WORK TO BE REQUIRED BY NYSDEC.

Remarks: OUT OF SERVICE UST FAILED SYSTEM TANK TEST

All TTF:

Facility ID:	9203990
Spill Number:	9203990
Spill Tank Test:	1540196
Site ID:	97532
Tank Number:	Not reported
Tank Size:	0
Material:	0009
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	00
Test Method 2:	Unknown
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	97532

473 EAST DELEVAN INC. (Continued) **S100493723**

Operable Unit ID:	967788
Operable Unit:	01
Material ID:	557139
Material Code:	0009
Material Name:	gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Groundwater
Oxygenate:	Not reported

SPILLS:

Name:	EAST SIDE AUTO SERVICE
Address:	966 EAST FERRY STREET
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8802420 / 1990-02-07
Facility ID:	8802420
Facility Type:	ER
DER Facility ID:	86852
Site ID:	97530
DEC Region:	9
Spill Cause:	Housekeeping
Spill Class:	Not reported
SWIS:	1502
Spill Date:	1988-06-16
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	1988-06-16
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station or other PBS Facility
Spill Notifier:	Citizen
Cleanup Ceased:	1990-02-07
Cleanup Meets Std:	True
Last Inspection:	1988-09-20
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1988-06-17
Spill Record Last Update:	1990-03-08
Spiller Name:	Not reported
Spiller Company:	JIM BREIER
Spiller Address:	58 CAROL LANE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	COMPLAINT OF USED MOTOR BEING DUMPED BEHIND BUILDING
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was MF 06/17/88: MF CF SITE VISIT/MACK LINDON, TOLD HIM WHAT HAS TO DONE. HE CLAIMED WORK WILL START TOMORROW & THAT JIM WILL CALL ME. 06/21/88: MF SITE VISIT/MACK LINDER, JIM NOT IN, CLEAN UP STARTED, NOT MUCH DONE. 06/22/88: MF TELECON JIM BREIER, NOT IN, LEFT MESSAGE WITH HIS WIFE TO HAVE HIM RETURN CALL. 06/29/88: MF CAF SITE VISIT VERY LITTLE WORK DONE. TOLD MACK TO HAVE JIM CALL ME. 06/30/88: MF JIM BREIER TELECON, I TOLD HIM WHAT I WANTED DONE AS FAR AS CLEAN UP & THAT I

473 EAST DELEVAN INC. (Continued) **S100493723**

WILL SEND HIM A LETTER. 07/20/88: MF SITE VISIT/MACK, AREA STILL NOT CLEANED, SHOWED MACK HOW I WANTED IT CLEANED, HE CLAIMED HE WILL CLEAN AREA IMMEDIATELY. 08/24/88: MF TELECON JIM BREIER, I GAVE HIM THE INFO REGARDING SITE VISIT. HE CLAIMED THE STREETS DEPT. TOOK BAGGED CLEAN UP DEBRIS BY MISTAKE. THE DEBRIS WAS NEVER TESTED. 08/24/88: MF SITE VISIT/MAC, SHOWED HIM 1 MORE AREA TO BE CLEANED, ASKED HIM WHERE CLEAN UP DEBRIS IS, HE DIDN'T KNOW. 09/13/88: MF SITE VISIT/MACK, AREA CLEANED, TRIED TO FIND JIM BREIER AT HIS OTHER GAS STATION, NO LUCK. (FILLMORE & DELAVAN). 09/14/88: MF TELECON JIM BREIER, NOT IN, LEFT MESSAGE TO CALL ME. 09/20/88: MF SITE VISIT/JIM GROBE & JIM BRIER. MR. GROBE IS CHECKING INFO ON MR. BRIER PBS APPLICIATION. 12/13/88: MF MEETING/JIM GROBE, HE CLAIMED THERE IS NOTHING BECI CAN DO EXCEPT HAVE MR. BRIEIER REGISTER ALL HIS TANKS WITH THE CORRECT INFO. NO FUTHER ACTION NECESSARY BY SPILLS. 03/02/89: MF JIM GROBE WANTS SPILLS TO HOLD OFF WITH LEGAL REFERAL UNTIL ALL THE WORK THAT BECI IS REQUIRING IS DONE. 04/06/89: MF SPOKE TO RRL, HE WOULD LIKE SPILLS TO HOLD OFF ON THE FINE UNTIL 7/1/89. AT THAT TIME ALL THE WORK REQUESTED BY BULK STORAGE SHOULD BE COMPLETE. 07/05/89: MF SPOKE TO DAN KING, HE WILL SUBMITT LEGAL REFERRAL. 12/27/89: MF CONSENT ORDER SENT TO JIM BREIER. 01/09/90: MF MEETING WITH DEC ATTY, JIM BRIEIER, MAC LANDER & HAROLD GEIGER REGARDING SOIL DISAPPEARENCE. FINE TO STAY IN PLACE BUT WILL BE DROPPED SLIGHTLY. 02/07/90: MF TELECON DAVE STEVER, FINE PAID ($3000.). NO FUTHER ACTION NECESSARY BY SPILLS.

All TTF:

Facility ID:	8802420
Spill Number:	8802420
Spill Tank Test:	1534134
Site ID:	97530
Tank Number:	Not reported
Tank Size:	0
Material:	0022
EPA UST:	Not reported
UST:	Not reported
Cause:	Not reported
Source:	Not reported
Test Method:	00
Test Method 2:	Unknown
Leak Rate:	.00
Gross Fail:	Not reported
Modified By:	Spills
Last Modified Date:	Not reported

All Materials:

Site ID:	97530
Operable Unit ID:	919656
Operable Unit:	01
Material ID:	457989
Material Code:	0022
Material Name:	waste oil/used oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	20.00
Units:	G
Recovered:	19.00
Resource Affected:	Soil

473 EAST DELEVAN INC. (Continued) **S100493723**

Oxygenate: Not reported

104
NE
1/4-1/2
0.454 mi.
2395 ft.

DEMOLITION SITE
776 EAST DELAVAN AVENUE
BUFFALO, NY 0

UST FINDER RELEASE **1029078944**
N/A

Relative:
Higher

Actual:
659 ft.

UST FINDER RELEASE:

Object ID:	244202
Facility ID:	NY86164
Lust ID:	NY9702192
Name:	DEMOLITION SITE
Address:	776 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 0
Address Match Type:	Not reported
Reported Date:	1997/05/20 15:59:59+00
Status:	No Further Action
Substance:	Not reported
Population within 1500ft:	1827
Domestic Wells within 1500ft:	0
Land Use:	Developed, Medium Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes
WHPA PWS Facility ID:	NY1430018_14182
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	041201040601
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	2
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	State
X Coord:	-78.82832
Y Coord:	42.92227
Latitude:	42.9222699999999
Longitude:	-78.82832

105
North
1/4-1/2
0.487 mi.
2572 ft.

1827 FILLMORE AVENUE
1827 FILLMORE AVENUE
BUFFALO, NY 14214

NY ENG CONTROLS
NY INST CONTROL
NY BROWNFIELDS

S113916510
N/A

Relative:
Higher

Actual:
671 ft.

ENG CONTROLS:

Name:	1827 FILLMORE AVENUE
Address:	1827 FILLMORE AVENUE
City,State,Zip:	BUFFALO, NY 14214
Site Code:	482726
HW Code:	C915279
Control Code:	15
Control Type:	ENG
Date Record Added:	11/15/2019
Date Rec Updated:	02/05/2021
Updated By:	MEKUCZKA
Site Description:	Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.
Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.

1827 FILLMORE AVENUE (Continued) **S113916510**

Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2013-06-03 14:47:00
Record Upd:	2019-12-07 11:31:00
Updated By:	DPLOCEY
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	April Tompkins
Owner Company:	Buffalo and Erie County Public Library
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street
Owner Addr2:	Suite 2000
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	Jonathan Swiatkowski
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider STreet
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Stephen M. Gary, Sr.
Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street, Suite 2000
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America
HW Code:	C915279
Waste Type:	benzo(a)anthracene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279

1827 FILLMORE AVENUE (Continued) **S113916510**

Waste Type:	copper
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	cadmium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	indeno(1,2,3-CD)pyrene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	benzo(b)fluoranthene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	dibenz[a,h]anthracene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	benzo(a)pyrene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	mercury
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	C915279-10-17
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2019-10-22 16:48:00
Record Updated:	2019-10-22 16:51:00
Updated By:	DPLOCEY
Crossref ID:	Book 11349, Page 5013
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2019-11-06 13:13:00
Record Updated:	2019-12-15 13:40:00
Updated By:	DPLOCEY
Crossref ID:	CAA-02-2011-1021
Cross Ref Type Code:	08
Cross Ref Type:	EPA Case No.
Record Added Date:	2013-07-19 09:28:00
Record Updated:	2013-07-19 09:28:00
Updated By:	BRWOLOSE

1827 FILLMORE AVENUE (Continued) **S113916510**

Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

INST CONTROL:
Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: Environmental Easement
HW Code: C915279
Control Code: J
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.
Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater.

1827 FILLMORE AVENUE (Continued) **S113916510**

	Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.
Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2013-06-03 14:47:00
Record Upd:	2019-12-07 11:31:00
Updated By:	DPLOCEY
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	April Tompkins
Owner Company:	Buffalo and Erie County Public Library
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street
Owner Addr2:	Suite 2000
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	Jonathan Swiatkowski
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider STreet
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Stephen M. Gary, Sr.
Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street, Suite 2000
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America

1827 FILLMORE AVENUE (Continued) **S113916510**

HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00
Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021

1827 FILLMORE AVENUE (Continued) **S113916510**

Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: IC/EC Plan
HW Code: C915279
Control Code: 34
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.

1827 FILLMORE AVENUE (Continued) **S113916510**

Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.
Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2013-06-03 14:47:00
Record Upd:	2019-12-07 11:31:00
Updated By:	DPLOCEY
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	April Tompkins
Owner Company:	Buffalo and Erie County Public Library
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street
Owner Addr2:	Suite 2000
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	Jonathan Swiatkowski
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider STreet
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Stephen M. Gary, Sr.
Owner Company:	1827 Fillmore LLC

1827 FILLMORE AVENUE (Continued) **S113916510**

Owner Address: 424 Main Street, Suite 2000
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00
Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier

1827 FILLMORE AVENUE (Continued) **S113916510**

Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021
Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: Monitoring Plan
HW Code: C915279
Control Code: 31
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered

1827 FILLMORE AVENUE (Continued) **S113916510**

within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.

Health Problem: Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.

Dump: True
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2013-06-03 14:47:00
Record Upd: 2019-12-07 11:31:00
Updated By: DPLOCEY
Own Op: Document Repository
Sub Type: NNN
Owner Name: April Tompkins
Owner Company: Buffalo and Erie County Public Library
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street
Owner Addr2: Suite 2000
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: Jonathan Swiatkowski
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider STreet
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America

1827 FILLMORE AVENUE (Continued) **S113916510**

Own Op: 1
Sub Type: P03
Owner Name: Stephen M. Gary, Sr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street, Suite 2000
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00

1827 FILLMORE AVENUE (Continued) **S113916510**

Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021
Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: Site Management Plan
HW Code: C915279
Control Code: 32
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site,

1827 FILLMORE AVENUE (Continued) **S113916510**

consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.

Health Problem: Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.

Dump: True
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2013-06-03 14:47:00
Record Upd: 2019-12-07 11:31:00
Updated By: DPLOCEY
Own Op: Document Repository
Sub Type: NNN
Owner Name: April Tompkins
Owner Company: Buffalo and Erie County Public Library
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street
Owner Addr2: Suite 2000
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: Jonathan Swiatkowski
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider STreet
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC

1827 FILLMORE AVENUE (Continued) **S113916510**

Owner Address: 462 Grider Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Stephen M. Gary, Sr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street, Suite 2000
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17

1827 FILLMORE AVENUE (Continued) **S113916510**

Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00
Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021
Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: Soil Management Plan
HW Code: C915279
Control Code: 14
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The

1827 FILLMORE AVENUE (Continued) **S113916510**

site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.

Health Problem: Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.

Dump: True
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2013-06-03 14:47:00
Record Upd: 2019-12-07 11:31:00
Updated By: DPLOCEY
Own Op: Document Repository
Sub Type: NNN
Owner Name: April Tompkins
Owner Company: Buffalo and Erie County Public Library
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street
Owner Addr2: Suite 2000
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: Jonathan Swiatkowski
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider STreet
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America

1827 FILLMORE AVENUE (Continued) **S113916510**

Own Op: 6
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Stephen M. Gary, Sr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street, Suite 2000
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279

1827 FILLMORE AVENUE (Continued) **S113916510**

Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00
Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021
Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: Landuse Restriction
HW Code: C915279
Control Code: 25
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958.

1827 FILLMORE AVENUE (Continued) **S113916510**

The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.

Health Problem: Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.

Dump: True
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2013-06-03 14:47:00
Record Upd: 2019-12-07 11:31:00
Updated By: DPLOCEY
Own Op: Document Repository
Sub Type: NNN
Owner Name: April Tompkins
Owner Company: Buffalo and Erie County Public Library
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street
Owner Addr2: Suite 2000
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: Jonathan Swiatkowski
Owner Company: 1827 Fillmore LLC

1827 FILLMORE AVENUE (Continued) **S113916510**

Owner Address: 462 Grider STreet
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Stephen M. Gary, Sr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street, Suite 2000
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279

1827 FILLMORE AVENUE (Continued) **S113916510**

Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00
Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021
Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Site Code: 482726
Control Name: Ground Water Use Restriction
HW Code: C915279
Control Code: 08
Control Type: INST
Dt record added: 11/15/2019
Dt rec updated: 02/05/2021
Updated By: MEKUCZKA
Site Code: 482726
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to

1827 FILLMORE AVENUE (Continued) **S113916510**

the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.

Env Problem: Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.

Health Problem: Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.

Dump: True
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: Not reported
Disp Term: Not reported
Lat/Long: Not reported
Dell: Not reported
Record Add: 2013-06-03 14:47:00
Record Upd: 2019-12-07 11:31:00
Updated By: DPLOCEY
Own Op: Document Repository
Sub Type: NNN
Owner Name: April Tompkins
Owner Company: Buffalo and Erie County Public Library
Owner Address: 1 Lafayette Square
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14203
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street
Owner Addr2: Suite 2000
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America

1827 FILLMORE AVENUE (Continued) **S113916510**

Own Op: 4
Sub Type: NNN
Owner Name: Jonathan Swiatkowski
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider STreet
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 6
Sub Type: P03
Owner Name: Thomas J. Quatroche, Jr.
Owner Company: 1827 Fillmore LLC
Owner Address: 462 Grider Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14215
Owner Country: United States of America
Own Op: 1
Sub Type: P03
Owner Name: Stephen M. Gary, Sr.
Owner Company: 1827 Fillmore LLC
Owner Address: 424 Main Street, Suite 2000
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14202
Owner Country: United States of America
HW Code: C915279
Waste Type: benzo(a)anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: copper
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: arsenic
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: cadmium
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: indeno(1,2,3-CD)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: benzo(b)fluoranthene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: lead
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: dibenz[a,h]anthracene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279

1827 FILLMORE AVENUE (Continued) **S113916510**

Waste Type: benzo(a)pyrene
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: mercury
Waste Quantity: UNKNOWN
Waste Code: Not reported
HW Code: C915279
Waste Type: barium
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: C915279-10-17
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2019-10-22 16:48:00
Record Updated: 2019-10-22 16:51:00
Updated By: DPLOCEY
Crossref ID: Book 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-15 13:40:00
Updated By: DPLOCEY
Crossref ID: CAA-02-2011-1021
Cross Ref Type Code: 08
Cross Ref Type: EPA Case No.
Record Added Date: 2013-07-19 09:28:00
Record Updated: 2013-07-19 09:28:00
Updated By: BRWOLOSE
Crossref ID: Book of Deeds 11349, Page 5013
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2019-11-06 13:13:00
Record Updated: 2019-12-23 10:13:00
Updated By: JCGRATHW

BROWNFIELDS:
Name: 1827 FILLMORE AVENUE
Address: 1827 FILLMORE AVENUE
City,State,Zip: BUFFALO, NY 14214
Program: BCP
Site Code: 482726
Acres: 17.110
HW Code: C915279
SWIS: 1502
Town: Buffalo (c)
Record Added Date: 06/03/2013
Record Updated Date: 04/25/2023
Update By: AECAPRIO
Site Description: Site Location: The 1827 Fillmore Avenue site is an approximately 17.1-acre site located in an urban area at 1827 Fillmore Ave in the City of Buffalo, Erie County. It is bounded by the Kensington Expressway (Route 33) and Buffalo Public School #84 to the north, Erie County Medical Center (ECMC) to the east, Buffalo Public School #89 to the south and Fillmore Avenue to the west. Site Features: The site is mainly vacant land with green areas, asphalt-paved parking lots and roadways. The entire site is enclosed by fence. A portion of

1827 FILLMORE AVENUE (Continued) **S113916510**

	the site is used as parking for ECMC. Current Zoning and Land Use: The site is zoned D-C Flex Commercial and is vacant except for a portion of the site being used for parking. Past Use of the Site: From at least 1917 the site was part of a stone quarry which encompassed the entire site and portions of adjacent properties to the east and south. Between the 1940s and the 1950s, the stone quarry was backfilled with sand, gravel, cinders, ash, asphalt, broken concrete, brick, metal debris, wood, glass and ceramics. The Kensington Heights Towers complex was constructed on-site in 1958. The complex consisted of six, seven-story brick apartment buildings, open space, and on-site parking. The site has been vacant since the 1980s. From 2009 to 2014, asbestos was removed from the apartment buildings and by 2018, all six buildings had been demolished. The site contamination is largely attributed to the waste fill materials used to backfill the stone quarry. Site Geology and Hydrogeology: The fill materials extend from the surface to the top of bedrock, varying in depths from 3 to 24 feet. Two soil mounds are located on-site, consisting mainly of topsoil, sandy clay and minimal fill. Groundwater was encountered within the fill material in the central and eastern portions of the site, at depths of approximately 14 to 18 feet, typically within a layer of ash. No groundwater was encountered within the fill in the western portion of the site. Bedrock wells installed in the western portion of the site found groundwater at depths of approximately 20 feet. Groundwater flows in a westerly direction.
Env Problem:	Remediation at the site is complete. Prior to remediation, the primary contaminants of concern were metals, including arsenic, barium, cadmium, copper, lead, mercury, manganese and sodium, and semi-volatile organic compounds (SVOCs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Measures are in place to control the potential for coming in contact with residual contamination remaining at the site.
Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	Not reported
Dell:	Not reported
Record Add:	2013-06-03 14:47:00
Record Upd:	2019-12-07 11:31:00
Updated By:	DPLOCEY
Own Op:	Document Repository
Sub Type:	NNN
Owner Name:	April Tompkins
Owner Company:	Buffalo and Erie County Public Library
Owner Address:	1 Lafayette Square
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14203
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.

1827 FILLMORE AVENUE (Continued) **S113916510**

Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street
Owner Addr2:	Suite 2000
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	Jonathan Swiatkowski
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider STreet
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	6
Sub Type:	P03
Owner Name:	Thomas J. Quatroche, Jr.
Owner Company:	1827 Fillmore LLC
Owner Address:	462 Grider Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14215
Owner Country:	United States of America
Own Op:	1
Sub Type:	P03
Owner Name:	Stephen M. Gary, Sr.
Owner Company:	1827 Fillmore LLC
Owner Address:	424 Main Street, Suite 2000
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14202
Owner Country:	United States of America
HW Code:	C915279
Waste Type:	benzo(a)anthracene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	copper
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	arsenic
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	cadmium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	indeno(1,2,3-CD)pyrene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	benzo(b)fluoranthene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	lead
Waste Quantity:	UNKNOWN
Waste Code:	Not reported

1827 FILLMORE AVENUE (Continued) **S113916510**

HW Code:	C915279
Waste Type:	dibenz[a,h]anthracene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	benzo(a)pyrene
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	mercury
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	C915279
Waste Type:	barium
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	C915279-10-17
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2019-10-22 16:48:00
Record Updated:	2019-10-22 16:51:00
Updated By:	DPLOCEY
Crossref ID:	Book 11349, Page 5013
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2019-11-06 13:13:00
Record Updated:	2019-12-15 13:40:00
Updated By:	DPLOCEY
Crossref ID:	CAA-02-2011-1021
Cross Ref Type Code:	08
Cross Ref Type:	EPA Case No.
Record Added Date:	2013-07-19 09:28:00
Record Updated:	2013-07-19 09:28:00
Updated By:	BRWOLOSE
Crossref ID:	Book of Deeds 11349, Page 5013
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2019-11-06 13:13:00
Record Updated:	2019-12-23 10:13:00
Updated By:	JCGRATHW

106
SE
1/2-1
0.688 mi.
3635 ft.

Relative: Higher

Actual: 646 ft.

GENERAL ELECTRIC - FORMER SHOP
318 URBAN ST
BUFFALO, NY 14211

NY SHWS **1000833429**
NY ENG CONTROLS **NYD987012762**
NY INST CONTROL
RCRA NonGen / NLR
FINDS
ECHO
NY MANIFEST

SHWS:

Name:	318 URBAN STREET
Address:	318 URBAN STREET
City,State,Zip:	BUFFALO, NY 14211
Program:	HW
Site Code:	57878
Classification:	Site is properly closed - requires continued management.
Region:	9
Acres:	2.468

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

HW Code: 915151
Record Add: 11/18/1999
Record Upd: 10/31/2022
Updated By: AECAPRIO
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.
Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.
Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump:	False
Structure:	True
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	1921
Disp Term:	1977
Lat/Long:	42:54:34:0 / 78:49:40:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	2012-10-01 12:33:00
Updated By:	ldennist
Own Op:	3
Sub Type:	02
Owner Name:	Dawn Varacchi-Ives
Owner Company:	General Electric Co. / GE International. Inc.
Owner Address:	621 Main St.
Owner Addr2:	Not reported
Owner City,St,Zip:	Fitchburg, MA 01420
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	_
Owner Company:	Kerr Industries
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	NY
Owner Country:	United States of America
Own Op:	1
Sub Type:	05
Owner Name:	Michael Sweeney
Owner Company:	Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address:	P.O. Box 851
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14240
Owner Country:	United States of America
HW Code:	915151
Waste Type:	POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	B9-0388-91-09
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2012-03-27 16:40:00
Record Updated:	2012-03-27 16:40:00
Updated By:	ewmelnyk
Crossref ID:	2011136428 bk-11205 pg-2990
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2012-03-27 16:43:00
Record Updated:	2012-03-27 16:43:00
Updated By:	ewmelnyk
Crossref ID:	1992-07-02
Cross Ref Type Code:	26
Cross Ref Type:	Agreement/Consent Order Date

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

ENG CONTROLS:
Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
HW Code: 915151
Control Code: 15
Control Type: ENG
Date Record Added: 06/18/2007
Date Rec Updated: 01/30/2020
Updated By: MEKUCZKA
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.
Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.
Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface.

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump:	False
Structure:	True
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	1921
Disp Term:	1977
Lat/Long:	42:54:34:0 / 78:49:40:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	2012-10-01 12:33:00
Updated By:	ldennist
Own Op:	3
Sub Type:	02
Owner Name:	Dawn Varacchi-Ives
Owner Company:	General Electric Co. / GE International. Inc.
Owner Address:	621 Main St.
Owner Addr2:	Not reported
Owner City,St,Zip:	Fitchburg, MA 01420
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	_
Owner Company:	Kerr Industries
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	NY
Owner Country:	United States of America
Own Op:	1
Sub Type:	05
Owner Name:	Michael Sweeney
Owner Company:	Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address:	P.O. Box 851
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14240
Owner Country:	United States of America
HW Code:	915151
Waste Type:	POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	B9-0388-91-09
Cross Ref Type Code:	23
Cross Ref Type:	Agreement/Consent Order Number
Record Added Date:	2012-03-27 16:40:00

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Record Updated:	2012-03-27 16:40:00
Updated By:	ewmelnyk
Crossref ID:	2011136428 bk-11205 pg-2990
Cross Ref Type Code:	25
Cross Ref Type:	County Recording Identifier
Record Added Date:	2012-03-27 16:43:00
Record Updated:	2012-03-27 16:43:00
Updated By:	ewmelnyk
Crossref ID:	1992-07-02
Cross Ref Type Code:	26
Cross Ref Type:	Agreement/Consent Order Date
Record Added Date:	2012-07-18 14:31:00
Record Updated:	2012-07-18 14:31:00
Updated By:	ewmelnyk
Name:	318 URBAN STREET
Address:	318 URBAN STREET
City,State,Zip:	BUFFALO, NY 14211
Site Code:	57878
HW Code:	915151
Control Code:	22
Control Type:	ENG
Date Record Added:	06/18/2007
Date Rec Updated:	01/30/2020
Updated By:	MEKUCZKA
Site Description:	Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

	Scajaquada Creek.
Env Problem:	Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.
Health Problem:	Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.
Dump:	False
Structure:	True
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	1921
Disp Term:	1977
Lat/Long:	42:54:34:0 / 78:49:40:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	2012-10-01 12:33:00
Updated By:	ldennist
Own Op:	3
Sub Type:	02
Owner Name:	Dawn Varacchi-Ives
Owner Company:	General Electric Co. / GE International. Inc.
Owner Address:	621 Main St.
Owner Addr2:	Not reported
Owner City,St,Zip:	Fitchburg, MA 01420
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	_
Owner Company:	Kerr Industries
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	NY
Owner Country:	United States of America
Own Op:	1
Sub Type:	05
Owner Name:	Michael Sweeney
Owner Company:	Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address:	P.O. Box 851
Owner Addr2:	Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

INST CONTROL:
Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: Site Management Plan
HW Code: 915151
Control Code: 32
Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.

Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.

Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921
Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
Owner Company: General Electric Co. / GE International. Inc.
Owner Address: 621 Main St.
Owner Addr2: Not reported
Owner City,St,Zip: Fitchburg, MA 01420
Owner Country: United States of America
Own Op: 4

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: NY
Owner Country: United States of America
Own Op: 1
Sub Type: 05
Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: Ground Water Use Restriction
HW Code: 915151
Control Code: 08
Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.

Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.

Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921
Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
Owner Company: General Electric Co. / GE International. Inc.
Owner Address: 621 Main St.
Owner Addr2: Not reported
Owner City,St,Zip: Fitchburg, MA 01420
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: NY
Owner Country: United States of America
Own Op: 1
Sub Type: 05
Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: Soil Management Plan
HW Code: 915151
Control Code: 14

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878

Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.

Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.

Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.
Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921
Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
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Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
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Owner Country: United States of America
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Sub Type: 05
Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
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Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: Landuse Restriction
HW Code: 915151
Control Code: 25
Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.
Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.
Health Problem: Since the site is covered by asphalt, buildings, and clean backfill,

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921
Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
Owner Company: General Electric Co. / GE International. Inc.
Owner Address: 621 Main St.
Owner Addr2: Not reported
Owner City,St,Zip: Fitchburg, MA 01420
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: NY
Owner Country: United States of America
Own Op: 1
Sub Type: 05
Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: Environmental Notice
HW Code: 915151
Control Code: N
Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.

Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.

Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921
Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
Owner Company: General Electric Co. / GE International. Inc.
Owner Address: 621 Main St.
Owner Addr2: Not reported
Owner City,St,Zip: Fitchburg, MA 01420
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: NY
Owner Country: United States of America
Own Op: 1
Sub Type: 05

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: IC/EC Plan
HW Code: 915151
Control Code: 34
Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.

Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.

Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921
Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
Owner Company: General Electric Co. / GE International. Inc.
Owner Address: 621 Main St.
Owner Addr2: Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Owner City,St,Zip: Fitchburg, MA 01420
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: NY
Owner Country: United States of America
Own Op: 1
Sub Type: 05
Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

Name: 318 URBAN STREET
Address: 318 URBAN STREET
City,State,Zip: BUFFALO, NY 14211
Site Code: 57878
Control Name: Building Use Restriction
HW Code: 915151
Control Code: 26
Control Type: INST
Dt record added: 06/18/2007
Dt rec updated: 01/30/2020
Updated By: MEKUCZKA
Site Code: 57878
Site Description: Location: The 318 Urban Street site is an approximately 2.468-acre site located in a mixed residential/industrial area at 318 Urban Street in the City of Buffalo, Erie County. The site is bounded by residential homes to the north, Urban Street to the south, apartments

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

and a playground to the east, and railroad tracks to the west. A public school is located diagonally across Urban Street to the southeast. Site Features: The site contains a brick/block high bay industrial building. Asphalt pavement borders the northern, eastern and western sides of the building. The remainder of the site is covered in turf grass. The entire parcel is secured with a chain link fence and driveway gate. The western side of the site is bounded by an elevated grade developed for the rail corridor. Current Zoning and Land Use: The site is zoned for Light Industrial use. Past Use of the Site: General Electric Corporation (GE) owned and operated the site from 1921 to 1968. GE used the building as a service shop to repair electrical equipment and transformers and to machine parts. A transformer pit was used for operations which included draining oil from transformers. Pyramid Steel Corporation (a.k.a. Sweeney Steel Service, Corp.) purchased the site in 1985 and used the building as a machine shop and warehouse for steel fabrication and supply. Pyramid vacated the property in the early 2000s. Several industrial tenants have used the building and site intermittently since that time. Site Geology and Hydrogeology: The surface soils consist primarily of poorly drained silts and clays. Based on the USGS topographic map, there are no surface water bodies within a one-mile radius of the site. The nearest surface water body shown on the map is Scajaquada Creek, which is one and one-half miles northwest of the site. Storm water runoff enters on-site catch basins and is directed through storm drains to a publicly owned combined storm and sanitary sewer on French Street. During normal flow conditions, the flow is discharged to the publicly-owned treatment works (POTW) on Squaw Island. During heavy storms, the combined sewer overflow discharges directly to Scajaquada Creek.

Env Problem: Remediation at the site is complete. Prior to remediation the primary contaminants of concern were PCBs in soil, groundwater and sewer sediments. Remedial activities have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil, groundwater and sewer sediments is being managed under a Site Management Plan.

Health Problem: Since the site is covered by asphalt, buildings, and clean backfill, people will not come in contact with site related soil or groundwater contamination that remains unless they dig below the surface. Groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. While the remaining extent of volatile organic compounds in soil is limited at the site, there is a process by which volatile organic compounds in soil may move into the soil vapor (air spaces within the soil), and in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Under current conditions and use of the site, soil vapor intrusion is not a concern, however, if use of the site changes from industrial use, the potential for soil vapor intrusion to occur will be evaluated.

Dump: False
Structure: True
Lagoon: False
Landfill: False
Pond: False
Disp Start: 1921

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Disp Term: 1977
Lat/Long: 42:54:34:0 / 78:49:40:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 2012-10-01 12:33:00
Updated By: ldennist
Own Op: 3
Sub Type: 02
Owner Name: Dawn Varacchi-Ives
Owner Company: General Electric Co. / GE International. Inc.
Owner Address: 621 Main St.
Owner Addr2: Not reported
Owner City,St,Zip: Fitchburg, MA 01420
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: _
Owner Company: Kerr Industries
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: NY
Owner Country: United States of America
Own Op: 1
Sub Type: 05
Owner Name: Michael Sweeney
Owner Company: Pyramid Steel Corporation / Sweeney Steel Service Corp.
Owner Address: P.O. Box 851
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14240
Owner Country: United States of America
HW Code: 915151
Waste Type: POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: B9-0388-91-09
Cross Ref Type Code: 23
Cross Ref Type: Agreement/Consent Order Number
Record Added Date: 2012-03-27 16:40:00
Record Updated: 2012-03-27 16:40:00
Updated By: ewmelnyk
Crossref ID: 2011136428 bk-11205 pg-2990
Cross Ref Type Code: 25
Cross Ref Type: County Recording Identifier
Record Added Date: 2012-03-27 16:43:00
Record Updated: 2012-03-27 16:43:00
Updated By: ewmelnyk
Crossref ID: 1992-07-02
Cross Ref Type Code: 26
Cross Ref Type: Agreement/Consent Order Date
Record Added Date: 2012-07-18 14:31:00
Record Updated: 2012-07-18 14:31:00
Updated By: ewmelnyk

RCRA Listings:
Date Form Received by Agency: 20070101
Handler Name: General Electric - Former Shop
Handler Address: URBAN ST

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Handler City,State,Zip:	BUFFALO, NY 14211
EPA ID:	NYD987012762
Contact Name:	Not reported
Contact Address:	URBAN ST
Contact City,State,Zip:	BUFFALO, NY 14211
Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	URBAN ST
Mailing City,State,Zip:	BUFFALO, NY 14211
Owner Name:	Erie County Industrial Agency
Owner Type:	County
Operator Name:	Erie County Industrial Agency
Operator Type:	County
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	NONE
Waste Description:	None
Waste Code:	X002
Waste Description:	Not Defined

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	ERIE COUNTY INDUSTRIAL AGENCY
Legal Status:	County
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	424 MAIN ST LIBERTY BLDG
Owner/Operator City,State,Zip:	BUFFALO, NY 14202
Owner/Operator Telephone:	716-856-6525
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	ERIE COUNTY INDUSTRIAL AGENCY
Legal Status:	County
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	424 MAIN ST LIBERTY BLDG
Owner/Operator City,State,Zip:	BUFFALO, NY 14202
Owner/Operator Telephone:	716-856-6525
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	ERIE COUNTY INDUSTRIAL AGENCY
Legal Status:	County
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	424 MAIN ST LIBERTY BLDG
Owner/Operator City,State,Zip:	BUFFALO, NY 14202
Owner/Operator Telephone:	716-856-6525
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19990208
Handler Name:	GENERAL ELECTRIC - FORMER SHOP

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20060101
Handler Name:	GENERAL ELECTRIC - FORMER SHOP
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20070101
Handler Name:	GENERAL ELECTRIC - FORMER SHOP
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19920824
Handler Name:	GENERAL ELECTRIC - FORMER SHOP
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19980226
Handler Name:	GENERAL ELECTRIC CO
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010101
Handler Name: GENERAL ELECTRIC PWR CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 333319
NAICS Description: OTHER COMMERCIAL AND SERVICE INDUSTRY MACHINERY MANUFACTURING

NAICS Code: 335999
NAICS Description: ALL OTHER MISCELLANEOUS ELECTRICAL EQUIPMENT AND COMPONENT MANUFACTURING

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110000810757

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000833429
Registry ID: 110000810757
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110000810757
Name: GENERAL ELECTRIC - FORMER SHOP
Address: 318 URBAN ST

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

City,State,Zip: BUFFALO, NY 14211

Manifest Facility Information:

EPA ID:	NYD987012762
Country:	USA
Name:	GENERAL ELECTRIC CO
Address:	318 URBAN ST
Address 2:	Not reported
City,State,Zip:	BUFFALO, NY 14203-0000
Zip 4:	Not reported
Location Address 1:	318 URBAN ST
Location Address 2:	Not reported
Location City,State,Zip:	BUFFALO, NY 14211
Location Zip 4:	1507
Facility Status:	Not reported
Total Tanks:	Not reported
Code:	BP

Mailing:

Mailing Name:	GENERAL ELECTRIC CO
Mailing Contact:	JOHN HARRSEN
Mailing Address 1:	1 COMPUTER DR S
Mailing Address 2:	Not reported
Mailing City,State,Zip:	ALBANY, NY 12205
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	5184586611

Manifest Data:

Document ID:	NYB8642268
Manifest Status:	Not reported
Trans1 State ID:	15046PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	07/18/1997
Trans1 Recv Date:	07/18/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/21/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	20484
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	NYB8642277
Manifest Status:	Not reported
Trans1 State ID:	15046PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/01/1997
Trans1 Recv Date:	08/01/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/01/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	17899
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	NYB8642286
Manifest Status:	Not reported
Trans1 State ID:	15044PNY

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/01/1997
Trans1 Recv Date:	08/01/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/04/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	24902
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB8642295
Manifest Status:	Not reported
Trans1 State ID:	15046PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/01/1997
Trans1 Recv Date:	08/01/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/04/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	25683
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB8642304
Manifest Status:	Not reported
Trans1 State ID:	15043PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/01/1997
Trans1 Recv Date:	08/01/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/04/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	21156

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	NYB8642313
Manifest Status:	Not reported
Trans1 State ID:	15042PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/01/1997
Trans1 Recv Date:	08/01/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/04/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	20457
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	NYB8642322
Manifest Status:	Not reported
Trans1 State ID:	15044PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/01/1997
Trans1 Recv Date:	08/01/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/01/1997
Part A Recv Date:	Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	18307
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB8642331
Manifest Status:	Not reported
Trans1 State ID:	15044PNY
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	08/05/1997
Trans1 Recv Date:	08/05/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/05/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	23197
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB8642349
Manifest Status:	Not reported
Trans1 State ID:	NY15042P
Year:	1997
Trans2 State ID:	Not reported
Generator Ship Date:	07/16/1997
Trans1 Recv Date:	07/16/1997
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/17/1997
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD987012762
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID 1:	NYD049836679
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	17110
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	NYB8642358

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Manifest Status:		Not reported
Trans1 State ID:		15043PNY
Year:		1997
Trans2 State ID:		Not reported
Generator Ship Date:		07/16/1997
Trans1 Recv Date:		07/16/1997
Trans2 Recv Date:		Not reported
TSD Site Recv Date:		07/16/1997
Part A Recv Date:		Not reported
Part B Recv Date:		Not reported
Generator EPA ID:		NYD987012762
Trans1 EPA ID:		NYD980769947
Trans2 EPA ID:		Not reported
TSDF ID 1:		NYD049836679
TSDF ID 2:		Not reported
Manifest Tracking Number:		Not reported
Import Indicator:		Not reported
Export Indicator:		Not reported
Discr Quantity Indicator:		Not reported
Discr Type Indicator:		Not reported
Discr Residue Indicator:		Not reported
Discr Partial Reject Indicator:		Not reported
Discr Full Reject Indicator:		Not reported
Manifest Ref Number:		Not reported
Alt Facility RCRA ID:		Not reported
Alt Facility Sign Date:		Not reported
MGMT Method Type Code:		Not reported
Waste Code 1:	B007	
Waste Code 2:		Not reported
Waste Code 3:		Not reported
Waste Code 4:		Not reported
Waste Code 5:		Not reported
Waste Code 6:		Not reported
Quantity:		20022
Units:		Kilograms
Number of Containers:		001
Container Type:		Dump truck
Handling Method:		Landfill
Specific Gravity:		01.00
Document ID:		NYB8642367
Manifest Status:		Not reported
Trans1 State ID:		15044PNY
Year:		1997
Trans2 State ID:		Not reported
Generator Ship Date:		07/16/1997
Trans1 Recv Date:		07/16/1997
Trans2 Recv Date:		Not reported
TSD Site Recv Date:		07/16/1997
Part A Recv Date:		Not reported
Part B Recv Date:		Not reported
Generator EPA ID:		NYD987012762
Trans1 EPA ID:		NYD980769947
Trans2 EPA ID:		Not reported
TSDF ID 1:		NYD049836679
TSDF ID 2:		Not reported
Manifest Tracking Number:		Not reported

GENERAL ELECTRIC - FORMER SHOP (Continued) **1000833429**

Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	B007
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	18425
Units:	Kilograms
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Click this hyperlink while viewing on your computer to access
248 additional NY MANIFEST: record(s) in the EDR Site Report.

W107 **NATIONAL GRID BARNS** **NY SHWS** **S106722172**
NNW **144 KENSINGTON AVE** **NY Spills** **N/A**
1/2-1 **BUFFALO, NY 14203**
0.716 mi.
3781 ft. **Site 1 of 2 in cluster W**

Relative: **Higher**
Actual: **649 ft.**

SHWS:

Name:	NIAGARA MOHAWK DEWEY AVE. SERVICE STA.
Address:	144 KENSINGTON AVENUE
City,State,Zip:	BUFFALO, NY 14214
Program:	HW
Site Code:	57851
Classification:	C
Region:	9
Acres:	21.200
HW Code:	915144
Record Add:	11/18/1999
Record Upd:	06/16/2023
Updated By:	AECAPRIO
Site Description:	Location: The Niagara Mohawk Dewey Ave. Service Station is an approximately 21.20-acre site located in an urban area at 144 Kensington Avenue in the City of Buffalo, Erie County. St. Mary's School for the Deaf borders the site to the west. Site Features: A mechanic shop, several administrative buildings, a fuel island and an employee parking lot are currently located on site. Current Zoning and Land Use: The site is an active National Grid service center. Past Use of the Site: The site has been used for servicing electrical equipment since the early 1930s. Site Geology and Hydrogeology: Groundwater generally flows to the east across the site.
Env Problem:	Remediation at the site is complete. Prior to remediation the primary

NATIONAL GRID BARNS (Continued) **S106722172**

	contaminants of concern were polychlorinated biphenyls (PCBs) in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination is soil and groundwater is being managed under a Site Management Plan.
Health Problem:	The majority of soil is covered with pavement and buildings and contact with any potentially contaminated soil is not likely. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination.
Dump:	False
Structure:	True
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	early 30s
Disp Term:	present
Lat/Long:	42:55:53:0 / 78:50:46:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	1999-11-18 12:00:00
Updated By:	INITIAL
Own Op:	3
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Niagara Mohawk Power Corporation
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	NY
Owner Country:	United States of America
Own Op:	1
Sub Type:	E
Owner Name:	Mr. Steven Stucker
Owner Company:	National Grid
Owner Address:	300 Erie Boulevard West
Owner Addr2:	C-1
Owner City,St,Zip:	Syracuse, NY 13202
Owner Country:	United States of America
Own Op:	4
Sub Type:	E
Owner Name:	Not reported
Owner Company:	NIAGARA MOHAWK POWER CORPORATION
Owner Address:	300 ERIE BLVD. WEST
Owner Addr2:	Not reported
Owner City,St,Zip:	SYRACUSE, NY
Owner Country:	United States of America
Own Op:	1
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Niagara Mohawk Power Corporation
Owner Address:	300 Erie Boulevard West
Owner Addr2:	Not reported
Owner City,St,Zip:	Syracuse, NY 13202
Owner Country:	United States of America
HW Code:	915144
Waste Type:	PCB'S
Waste Quantity:	UNKNOWN

NATIONAL GRID BARNS (Continued) **S106722172**

Waste Code: Not reported
Crossref ID: NIAGARA MOHAWK DEWEY AVE SVC CTR
Cross Ref Type Code: 27
Cross Ref Type: Alternate Site Name
Record Added Date: 2011-06-16 00:00:00
Record Updated: 2011-06-16 00:00:00
Updated By: jdjarrat
Crossref ID: NYD000730390
Cross Ref Type Code: 06
Cross Ref Type: RCRA EPA ID No.
Record Added Date: 2011-03-31 10:03:00
Record Updated: 2011-03-31 10:03:00
Updated By: DADESNOY

SPILLS:
Name: NATIONAL GRID COMPLEX/DUMPSTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 0912230 / 2010-02-23
Facility ID: 0912230
Facility Type: ER
DER Facility ID: 146650
Site ID: 425107
DEC Region: 9
Spill Cause: Housekeeping
Spill Class: D4
SWIS: 1502
Spill Date: 2010-02-23
Investigator: TDJOHNSO
Referred To: Not reported
Reported to Dept: 2010-02-23
CID: Not reported
Water Affected: Not reported
Spill Source: Commercial/Industrial
Spill Notifier: Other
Cleanup Ceased: Not reported
Cleanup Meets Std: False
Last Inspection: Not reported
Recommended Penalty: False
UST Trust: False
Remediation Phase: 0
Date Entered In Computer: 2010-02-23
Spill Record Last Update: 2010-02-23
Spiller Name: LISA MONTICELLO
Spiller Company: NATIONAL GRID
Spiller Address: 144 KENNISON AVE
Spiller Company: 999
Contact Name: LISA MONTICELLO
DEC Memo: CUTTING FLUID LEAKING OUT OF DUMPSTER. CLEAN UP IN PROGRESS.
Remarks: 2/23/10 TDJ SPOKE WITH LISA WHO CLAIMED METAL RECYCLING BIN LEAKS WHEN ICE THAWS A MINIMAL AMOUNT UNDER. WILL DEAL WITH COMPANY TO CONTAIN OILY PARTS IN BIN. WHEN BIN IS TAKEN TODAY OP-TECH WILL CLEAN AREA UNDER AND MINIMAL AMOUNT OF OIL CONTAMINATED MATERIAL WILL GO FOR DISPOSAL WITH OTHER SMALL AMOUNTS GENERATED ONSITE. NO FURTHER ACTION FILE CLOSED TO ELECTRONIC ONLY.

All Materials:

NATIONAL GRID BARNS (Continued) **S106722172**

Site ID:	425107
Operable Unit ID:	1180838
Operable Unit:	01
Material ID:	2174837
Material Code:	0007
Material Name:	cutting oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	2.00
Units:	G
Recovered:	Not reported
Resource Affected:	Not reported
Oxygenate:	Not reported

Name:	NATIONAL GRID PARKING LOT
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1010710 / 2011-01-18
Facility ID:	1010710
Facility Type:	ER
DER Facility ID:	146650
Site ID:	444324
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2011-01-18
Investigator:	TDJOHNSO
Referred To:	Not reported
Reported to Dept:	2011-01-18
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2011-01-18
Spill Record Last Update:	2011-01-18
Spiller Name:	DAVE MELONSON
Spiller Company:	UNKNOWN
Spiller Address:	144 KENSINGTON AVE
Spiller Company:	999
Contact Name:	DAVE MELONSON
DEC Memo:	Caller reporting a spill of 1 gallon of an unknown petroleum to asphalt. Spill from an unknown source. Clean up complete.
Remarks:	01/18/11 TDJ MINOR SPILL CLEANED BY CONTRACTOR FOR DISPOSAL WITH NATIONAL GRID WASTE NO FURTHER ACTION FILE CLOSED TO ELECTRONIC ONLY

All Materials:

Site ID:	444324
Operable Unit ID:	1194769
Operable Unit:	01

NATIONAL GRID BARNS (Continued) **S106722172**

Material ID: 2190636
Material Code: 0066A
Material Name: unknown petroleum
Case No.: Not reported
Material FA: Petroleum
Quantity: 1.00
Units: G
Recovered: Not reported
Resource Affected: Not reported
Oxygenate: Not reported

Name: BUFFALO SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 1101384 / 2011-05-06
Facility ID: 1101384
Facility Type: ER
DER Facility ID: 146650
Site ID: 448833
DEC Region: 9
Spill Cause: Equipment Failure
Spill Class: D4
SWIS: 1502
Spill Date: 2011-05-06
Investigator: FXGALLEG
Referred To: DIVISION OF AIR
Reported to Dept: 2011-05-06
CID: Not reported
Water Affected: Not reported
Spill Source: Institutional, Educational, Gov., Other
Spill Notifier: Responsible Party
Cleanup Ceased: Not reported
Cleanup Meets Std: False
Last Inspection: Not reported
Recommended Penalty: False
UST Trust: False
Remediation Phase: 0
Date Entered In Computer: 2011-05-06
Spill Record Last Update: 2011-05-06
Spiller Name: LISA MONTICONTO
Spiller Company: NATIONAL GRID
Spiller Address: 144 KENSINGTON AVE
Spiller Company: 999
Contact Name: LISA MONTICONTO
DEC Memo: R-22 released. Repairs made and units back in service.
Remarks: 5/6/11 REFERRED TO THE DIVISION OF AIR FOR FOLLOW UP. SPILL FILE CLOSED. ELECTRONIC FILE ONLY.

All Materials:
Site ID: 448833
Operable Unit ID: 1199066
Operable Unit: 01
Material ID: 2195413
Material Code: 1581A
Material Name: refrigerant
Case No.: Not reported
Material FA: Other

NATIONAL GRID BARNS (Continued) **S106722172**

Quantity: 12.50
Units: L
Recovered: Not reported
Resource Affected: Air
Oxygenate: Not reported

Name: DEWEY SERVICE CTR
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 1101088 / 2011-04-29
Facility ID: 1101088
Facility Type: ER
DER Facility ID: 146650
Site ID: 448527
DEC Region: 9
Spill Cause: Human Error
Spill Class: D4
SWIS: 1502
Spill Date: 2011-04-29
Investigator: FXGALLEG
Referred To: Not reported
Reported to Dept: 2011-04-29
CID: Not reported
Water Affected: Not reported
Spill Source: Institutional, Educational, Gov., Other
Spill Notifier: Responsible Party
Cleanup Ceased: Not reported
Cleanup Meets Std: False
Last Inspection: Not reported
Recommended Penalty: False
UST Trust: False
Remediation Phase: 0
Date Entered In Computer: 2011-04-29
Spill Record Last Update: 2011-04-29
Spiller Name: LISA MONTICONTO
Spiller Company: NATIONAL GRID
Spiller Address: 144 KENSINGTON AVE
Spiller Company: 999
Contact Name: LISA MONTICONTO
DEC Memo: While refueling equipment spilled onto blacktop. Contained and cleanuo in progress. Optec doing the cleanup.
Remarks: 4/29/11 MINOR SPILL - CLEANED UP. CLOSED. ELECTRONIC FILE ONLY.

All Materials:
Site ID: 448527
Operable Unit ID: 1198765
Operable Unit: 01
Material ID: 2195080
Material Code: 0008
Material Name: diesel
Case No.: Not reported
Material FA: Petroleum
Quantity: .50
Units: G
Recovered: Not reported
Resource Affected: Not reported

NATIONAL GRID BARNS (Continued) **S106722172**

Oxygenate: Not reported

Name: DEWEY LINE BARN
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 1202220 / 2012-08-01
Facility ID: 1202220
Facility Type: ER
DER Facility ID: 146650
Site ID: 464974
DEC Region: 9
Spill Cause: Equipment Failure
Spill Class: Not reported
SWIS: 1502
Spill Date: 2012-06-05
Investigator: TDJOHNSO
Referred To: Not reported
Reported to Dept: 2012-06-05
CID: Not reported
Water Affected: Not reported
Spill Source: Commercial Vehicle
Spill Notifier: Other
Cleanup Ceased: Not reported
Cleanup Meets Std: False
Last Inspection: Not reported
Recommended Penalty: False
UST Trust: False
Remediation Phase: 0
Date Entered In Computer: 2012-06-05
Spill Record Last Update: 2012-08-01
Spiller Name: Not reported
Spiller Company: NAT GRID
Spiller Address: Not reported
Spiller Company: 999
Contact Name: LISA MONTESANO
DEC Memo: spill to paved area/clean up underway
Remarks: 06/05/12 TDJ CONTACTED LISA WHO STATED THAT PIECE OF EQUIPMENT LOST HYDRAULIC LINE CAUSING SPILL TO PAVEMENT. IN-HOUSE PERSONS TO COLLECT OILY MATERIAL FOR DISPOSAL. NO DRAINS NOR WATERWAYS AFFECTED. 08/01/12 TDJ RECEIVED DISPOSAL RECIEPT FOR CLEANUP OF SPILL NO FURTHER ACTION FILE CLOSED

All Materials:
Site ID: 464974
Operable Unit ID: 1215008
Operable Unit: 01
Material ID: 2213079
Material Code: 0010
Material Name: hydraulic oil
Case No.: Not reported
Material FA: Petroleum
Quantity: 15.00
Units: G
Recovered: Not reported
Resource Affected: Not reported
Oxygenate: Not reported

NATIONAL GRID BARNS (Continued) **S106722172**

Name:	NATIONAL GRID PROPERTY
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1202648 / 2012-06-18
Facility ID:	1202648
Facility Type:	ER
DER Facility ID:	146650
Site ID:	465421
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	D4
SWIS:	1502
Spill Date:	2012-06-18
Investigator:	FXGALLEG
Referred To:	DIVISION OF AIR
Reported to Dept:	2012-06-18
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2012-06-18
Spill Record Last Update:	2012-06-18
Spiller Name:	LISA MONTESANTO
Spiller Company:	NATIONAL GRID
Spiller Address:	144 KENSINGTON AVE
Spiller Company:	999
Contact Name:	LISA MONTESANTO
DEC Memo:	1 pound R-22 Refrigerant from hvac released to air
Remarks:	6/18/12 SPILL REPORT REFERRED TO DIVISION OF AIR FOR FOLLOW UP OF THE FREON RELEASE. NO FURTHER ACTION BY SPILLS POSSIBLE. SPILL CLOSED. ELECTRONIC FILE ONLY.

All Materials:

Site ID:	465421
Operable Unit ID:	1215443
Operable Unit:	01
Material ID:	2213570
Material Code:	0050A
Material Name:	freon
Case No.:	Not reported
Material FA:	Other
Quantity:	1.00
Units:	L
Recovered:	Not reported
Resource Affected:	Air
Oxygenate:	Not reported

Name:	DEWEY KENSINGTON SERVICE CTR
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1212720 / 2012-11-29

NATIONAL GRID BARNS (Continued) **S106722172**

Facility ID:	1212720
Facility Type:	ER
DER Facility ID:	146650
Site ID:	475874
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2012-11-28
Investigator:	TDJOHNSO
Referred To:	Not reported
Reported to Dept:	2012-11-28
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial Vehicle
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2012-11-28
Spill Record Last Update:	2012-11-29
Spiller Name:	LISA MONTESANO
Spiller Company:	NATIONAL GRID
Spiller Address:	144 KENSINGTON AVE
Spiller Company:	999
Contact Name:	LISA MONTESANO
DEC Memo:	Spilled onto pavement. Cleanup is enroute.
Remarks:	11/28/12 TDJ MINOR SPILL OF HYDRAULIC OIL CLEANED BY COMPANY. NO FURTHER ACTION FILE CLOSED TO ELECTRONIC ONLY

All Materials:

Site ID:	475874
Operable Unit ID:	1225715
Operable Unit:	01
Material ID:	2223003
Material Code:	0010
Material Name:	hydraulic oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	1.00
Units:	G
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	PARKING LOT
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1213902 / 2012-12-27
Facility ID:	1213902
Facility Type:	ER
DER Facility ID:	146650
Site ID:	477119
DEC Region:	9

NATIONAL GRID BARNS (Continued) **S106722172**

Spill Cause:	Equipment Failure
Spill Class:	C4
SWIS:	1502
Spill Date:	2012-12-26
Investigator:	RJJONAK
Referred To:	Not reported
Reported to Dept:	2012-12-26
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial Vehicle
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2012-12-26
Spill Record Last Update:	2012-12-27
Spiller Name:	KEVIN BURKE
Spiller Company:	ELBER'S LANDSCAPING SERVICES,INC.
Spiller Address:	2918 MAIN ST.
Spiller Company:	001
Contact Name:	LISA MONTESANO
DEC Memo:	Plow truck broke a line spilling 6oz to the parking lot. Clean up is pending.
Remarks:	12/27/2012: RJJ TELECON LISA MONTESANO,NATIONAL GRID,SHE SAID THAT THEIR SNOWPLOWER,ELBER LANDSCAPING,BROKE A HYDRAULIC LINE,SPILLING ~ 5-6 OZS. OF HYDRAULIC OIL,ALL ON THEIR ASPHALT DRIVEWAY...NATIONAL GRID PERSONNEL USED SPEEDI-DRY TO CLEAN-UP THE SPILL,THEN PLACED IT IN ONE OF THEIR PROFILED DUMPSTER FOR DISPOSAL,SINCE IT WAS A SMALL AMOUNT...NONE OF THE OIL REACHED ANY SOIL OR WATERWAYS,IT WAS ALL RECOVERED...NO FURTHER ACTION NEEDED...SPILL CLOSED OUT. ***** NOTE,COMPUTER FILE ONLY *****

All Materials:

Site ID:	477119
Operable Unit ID:	1226929
Operable Unit:	01
Material ID:	2224335
Material Code:	0010
Material Name:	hydraulic oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.05
Units:	G
Recovered:	.05
Resource Affected:	Impervious Surface
Oxygenate:	Not reported

Name:	NATIONAL GRID PROPERTY
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	1801723 / 2018-05-15
Facility ID:	1801723
Facility Type:	ER
DER Facility ID:	146650

NATIONAL GRID BARNS (Continued) **S106722172**

Site ID:	570267
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2018-05-15
Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	2018-05-15
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial Vehicle
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2018-05-15
Spill Record Last Update:	2018-05-15
Spiller Name:	LISA MONTESANO
Spiller Company:	NATIONAL GRID VEHICLE
Spiller Address:	144 KENSINGTON AVE
Spiller Company:	999
Contact Name:	LISA MONTESANO
DEC Memo:	Spilled to blacktop. Cleanup is completed.
Remarks:	5/15/18 Minor spill. closed.

All Materials:

Site ID:	570267
Operable Unit ID:	1318111
Operable Unit:	01
Material ID:	2326037
Material Code:	0010
Material Name:	hydraulic oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	1.00
Units:	G
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	NAT GRID SERVICE CTR
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	2006412 / 2020-10-14
Facility ID:	2006412
Facility Type:	ER
DER Facility ID:	146650
Site ID:	612247
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2020-10-14

NATIONAL GRID BARNS (Continued) **S106722172**

Investigator:	FXGALLEG
Referred To:	Not reported
Reported to Dept:	2020-10-14
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2020-10-14
Spill Record Last Update:	2020-10-14
Spiller Name:	Not reported
Spiller Company:	NAT GRID
Spiller Address:	Not reported
Spiller Company:	999
Contact Name:	LISA MONTICONO
DEC Memo:	Loss to interior, System repaired
Remarks:	10/14/20 2.5 lbs of a refrigerant was released to the environment. No further action possible. Closed.

All Materials:

Site ID:	612247
Operable Unit ID:	1359388
Operable Unit:	01
Material ID:	2370883
Material Code:	1581A
Material Name:	refrigerant
Case No.:	Not reported
Material FA:	Other
Quantity:	2.50
Units:	L
Recovered:	Not reported
Resource Affected:	Air
Oxygenate:	Not reported

Name:	NAT GRID
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY 1421
Spill Number/Closed Date:	2006432 / 2021-08-31
Facility ID:	2006432
Facility Type:	ER
DER Facility ID:	560367
Site ID:	612268
DEC Region:	9
Spill Cause:	Unknown
Spill Class:	Not reported
SWIS:	1502
Spill Date:	2020-10-14
Investigator:	TDJOHNSO
Referred To:	REMEDIATION
Reported to Dept:	2020-10-14
CID:	Not reported
Water Affected:	Not reported

NATIONAL GRID BARNS (Continued) **S106722172**

Spill Source:	Commercial/Industrial
Spill Notifier:	Other
Cleanup Ceased:	Not reported
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2020-10-14
Spill Record Last Update:	2021-08-31
Spiller Name:	Not reported
Spiller Company:	NAT GRID
Spiller Address:	Not reported
Spiller Company:	999
Contact Name:	LISA MONTICONO
DEC Memo:	discovered in analytical samples
Remarks:	10/15/20 TDJ SPOKE WITH LISA WHO STATED THAT PRE SAMPLING OF AREA TO BE RECONSTRUCTED ON THE PROPERTY SHOWED LOW LEVEL PCB CONTAMINATION. THE DRAINAGE SYSTEM IS BEING UPDATED DUE TO BACKUP DURING HIGH VOLUME EVENTS. DURING CONSTRUCTION THIS MATERIAL WILL BE DISPOSED AS PCB CONTAMINATED. 02/09/21 TDJ SPOKE WITH LISA AGAIN WHO STATED THAT PROJECT WILL BEGIN DURING SPRING OF 2021. 08/31/21 TDJ UPDATE TO PROJECT THAT REMEDIATION HAS TAKEN THIS SPILL AREA INTO CURRENT PROJECT FOR UPGRADES ON SITE. NO FURTHER UPDATES WILL BE REPORTED ON THIS SPILL AND IT WILL BE CLOSED TO REMEDIATION. NO FURTHER ACTION FILE CLOSED TO ELECTRONIC ONLY

All Materials:

Site ID:	612268
Operable Unit ID:	1359409
Operable Unit:	01
Material ID:	2370956
Material Code:	0017A
Material Name:	PCB oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	Not reported
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	Not reported

Click this hyperlink while viewing on your computer to access
105 additional NY SPILL: record(s) in the EDR Site Report.

W108 **MDC- BUFFALO** **FUDS** **1024899328**
NNW **N/A**
1/2-1 **BUFFALO, NY**
0.745 mi.
3934 ft. **Site 2 of 2 in cluster W**

Relative: FUDS:
Higher

EPA Region:	02
Installation ID:	NY29799F891100
Congressional District Number:	26
Name:	MDC- BUFFALO
FUDS Number:	C02NY1026

Actual:
650 ft.

MDC- BUFFALO (Continued) **1024899328**

City:	BUFFALO
State:	NY
County:	ERIE
Object ID:	7033
USACE Division:	NAD
USACE District:	New England District (NAE)
Status:	Properties without projects
Current Owner:	PRIV: PRIVATE NIAGARA MOHAWK - UTILITY COMPANY
EMS Map Link:	https://fudsportal.usace.army.mil/ems/inventory/map?id=56172
Eligibility:	Eligible
Has Projects:	No
NPL Status:	Not reported
Project Required:	No
Feature Description:	There is no historical file available for this former naval installation. However, the 1995 FDE indicated that the site was utilized as warehousing facility.
Latitude:	42.92805556
Longitude:	-78.84472222

109
NNW
1/2-1
0.824 mi.
4352 ft.

Relative:
Higher

Actual:
653 ft.

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEW **CORRACTS** **1015757885**
144 KENSINGTON AVE **RCRA-TSDF** **NYD000730390**
BUFFALO, NY 14214 **RCRA-LQG**
US FIN ASSUR
2020 COR ACTION
PADS

CORRACTS:

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON
Address 2:	93 DEWEY AVE
EPA ID:	NYD000730390
Area Name:	SITEWIDE
Corrective Action:	STABILIZATION MEASURES EVALUATION-FURTHER INVESTIGATION NECESSARY
Actual Date:	19940928
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON
Address 2:	93 DEWEY AVE
EPA ID:	NYD000730390
Area Name:	SITEWIDE
Corrective Action:	RFA COMPLETED
Actual Date:	19901001
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON
Address 2:	93 DEWEY AVE
EPA ID:	NYD000730390

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

Area Name: SITEWIDE
Corrective Action: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY
Actual Date: 19940810
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: CA PRIORITIZATION-LOW CA PRIORITY
Actual Date: 19931026
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: INVESTIGATION WORKPLAN APPROVED
Actual Date: 19940810
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: STABILIZATION MEASURES EVALUATION-FURTHER INVESTIGATION NECESSARY
Actual Date: 19940928
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: INVESTIGATION WORKPLAN APPROVED
Actual Date: 19940810
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: INVESTIGATION REPORT RECEIVED
Actual Date: 19950213
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: INVESTIGATION COMPLETE
Actual Date: 19950213
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: CMS IMPOSITION
Actual Date: 19950213
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON
Address 2: 93 DEWEY AVE
EPA ID: NYD000730390
Area Name: SITEWIDE
Corrective Action: CMS WORKPLAN RECEIVED
Actual Date: 19950313
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

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21 additional CORRACTS: record(s) in the EDR Site Report.

RCRA TSDF:

Treatment Storage and Disposal Type:	Storage
Full Enforcement Universe:	Not reported
Corrective Action Workload Universe:	Yes
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Storage
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
Operating TSDF Universe:	Not reported
Commercial TSD Indicator:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	Yes

Biennial: List of Years

Year: 2021

Click Here for Biennial Reporting System Data:
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2017

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:
Year: 2013

Click Here for Biennial Reporting System Data:
Year: 2011

Click Here for Biennial Reporting System Data:
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

RCRA Listings:

Date Form Received by Agency:	20230223
Handler Name:	Niagara Mohawk Power Corp A National Grid Co - Dewey Ave Service Center
Handler Address:	KENSINGTON
Handler City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD000730390
Contact Name:	LISA MONTESANO
Contact Address:	KENSINGTON AVE
Contact City,State,Zip:	BUFFALO, NY 14214
Contact Telephone:	716-479-5339
Contact Fax:	315-454-4467
Contact Email:	LISA.MONTESANO@NATIONALGRID.COM
Contact Title:	ENVIRONMENTAL ENGINEER
EPA Region:	02
Land Type:	Private
Federal Waste Generator Description:	Large Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	2022
Accessibility:	Not reported
Active Site Indicator:	Handler Activities, Corrective Action Activities
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	KENSINGTON AVE
Mailing City,State,Zip:	BUFFALO, NY 14214
Owner Name:	Niagara Mohawk Power Corp., A National Grid Co.
Owner Type:	Private
Operator Name:	Niagara Mohawk Power Corp., A National Grid Co.
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	Yes
Subject to Corrective Action Universe:	Yes
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	Low
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	Yes
Groundwater Controls Indicator:	Yes
Significant Non-Complier Universe:	No

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230224
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2021

Click Here for Biennial Reporting System Data:
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2017

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:
Year: 2013

Click Here for Biennial Reporting System Data:
Year: 2011

Click Here for Biennial Reporting System Data:
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D000
Waste Description: Not Defined

Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Waste Description: Corrosive Waste

Waste Code: D007
Waste Description: Chromium

Waste Code: D008
Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D018
Waste Description: Benzene

Waste Code: D019
Waste Description: Carbon Tetrachloride

Waste Code: D027
Waste Description: 1,4-Dichlorobenzene

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

Waste Code: D039
Waste Description: Tetrachloroethylene

Waste Code: F001
Waste Description: The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F002
Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F003
Waste Description: The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: LABP
Waste Description: Labp

Waste Code: NONE
Waste Description: None

Waste Code: U002
Waste Description: 2-Propanone (I) (Or) Acetone (I)

Waste Code: U075
Waste Description: Dichlorodifluoromethane (Or) Methane, Dichlorodifluoro-

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Waste Code: U159
Waste Description: 2-Butanone (I,T) (Or) Methyl Ethyl Ketone (Mek) (I,T)

Waste Code: U211
Waste Description: Carbon Tetrachloride (Or) Methane, Tetrachloro-

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP	
Legal Status:	Private
Date Became Current:	19791231
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: NATIONAL GRID	
Legal Status:	Private
Date Became Current:	19000101
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6685
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6685
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NATIONAL GRID
Legal Status: Private
Date Became Current: 19791231
Date Ended Current: Not reported
Owner/Operator Address: 300 W ERIE BLVD
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP
Legal Status: Private
Date Became Current: 19000101
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6685
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK-A NATL GRID CO
Legal Status: Private
Date Became Current: 19791231
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202-4250
Owner/Operator Telephone: 315-474-1511
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK A NATIONAL GRID COMPANY
Legal Status: Private
Date Became Current: 20020131
Date Ended Current: Not reported
Owner/Operator Address: ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202-4250
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP
Legal Status: Private
Date Became Current: 19791231
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6685
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Date Became Current:	20000905
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	315-428-6685
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NIAGARA MOHAWK-A NATL GRID CO
Legal Status:	Private
Date Became Current:	19791231
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202-4250
Owner/Operator Telephone:	315-474-1511
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NIAGARA MOHAWK A NATIONAL GRID COMPANY
Legal Status:	Private
Date Became Current:	20020131
Date Ended Current:	Not reported
Owner/Operator Address:	ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202-4250
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status:	Private
Date Became Current:	20000905
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	315-428-6685
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status:	Private
Date Became Current:	20000905
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	315-474-1511
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	NATHAN.BUTERA@NATIONALGRID.COM

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Owner/Operator Indicator:	Operator
Owner/Operator Name: NIAGARA MOHAWK	
Legal Status:	Private
Date Became Current:	20020131
Date Ended Current:	Not reported
Owner/Operator Address:	ERIE BLVD
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: NIAGARA MOHAWK	
Legal Status:	Private
Date Became Current:	20020131
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.	
Legal Status:	Private
Date Became Current:	20000905
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	315-428-6685
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.	
Legal Status:	Private
Date Became Current:	20000905
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	315-474-1511
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	NATHAN.BUTERA@NATIONALGRID.COM

Owner/Operator Indicator:	Operator
Owner/Operator Name: NIAGARA MOHAWK	
Legal Status:	Private
Date Became Current:	20020131
Date Ended Current:	Not reported
Owner/Operator Address:	ERIE BLVD
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6685
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK POWER CORP
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: OWNERSTREET
Owner/Operator City,State,Zip: OWNERCITY, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP
Legal Status: Private
Date Became Current: 19000101
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6793
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NIAGARA MOHAWK POWER CORP., A NATIONAL GRID CO.
Legal Status: Private
Date Became Current: 20000905
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: 315-428-6793
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: DEWEY AVE SERVICE CENTER
Legal Status: Private
Date Became Current: 19791231
Date Ended Current: Not reported
Owner/Operator Address: 144 KENSINGTON AVE
Owner/Operator City,State,Zip: BUFFALO, NY 14214
Owner/Operator Telephone: 315-428-6613
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK
Legal Status: Private
Date Became Current: 20020131
Date Ended Current: Not reported
Owner/Operator Address: ERIE BLVD
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NATIONAL GRID
Legal Status: Private
Date Became Current: 19000101
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD W
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: NIAGARA MOHAWK
Legal Status: Private
Date Became Current: 20020131
Date Ended Current: Not reported
Owner/Operator Address: 300 ERIE BLVD
Owner/Operator City,State,Zip: SYRACUSE, NY 13202
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: OPERNAME
Legal Status: Private

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	OPERSTREET
Owner/Operator City,State,Zip:	OPERCITY, WY 99999
Owner/Operator Telephone:	212-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: NATIONAL GRID	
Legal Status:	Private
Date Became Current:	19791231
Date Ended Current:	Not reported
Owner/Operator Address:	300 ERIE BLVD W
Owner/Operator City,State,Zip:	SYRACUSE, NY 13202
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19820604
Handler Name: NIAGARA MOHAWK DEWEY AVENUE	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20100301
Handler Name: NIAGARA MOHAWK DEWEY AVE SVC CTR	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20120302
Handler Name: NATIONAL GRID - DEWEY AVE SVC CTR	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20140304
Handler Name: NATIONAL GRID DEWEY AVE SVC CTR
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20160224
Handler Name: NATIONAL GRID DEWEY AVE SVC CTR
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180228
Handler Name: NATIONAL GRID - DEWEY AVE SERVICE CENTER
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20200225
Handler Name: NATIONAL GRID DEWEY AVE SERVICE CENTER
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20210225

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Handler Name: NATIONAL GRID - DEWEY AVE SERVICE CENTER
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220225
Handler Name: NATIONAL GRID - DEWEY AVE SERVICE CENTER
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20230223
Handler Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19990729
Handler Name: NIAGARA MOHAWK DEWEY AVENUE
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19941207
Handler Name: NIAGARA MOHAWK DEWEY AVENUE
Federal Waste Generator Description: Not reported
State District Owner: Ny
Large Quantity Handler of Universal Waste: No

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20060308
Handler Name:	NATIONAL GRID
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20070101
Handler Name:	NATIONAL GRID
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20200518
Handler Name:	NATIONAL GRID - DEWEY AVE SERVICE CENTER
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

Receive Date:	19800815
Handler Name:	NIAGARA MOHAWK DEWEY AVENUE
Federal Waste Generator Description:	Not reported
State District Owner:	Ny
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20021226
Handler Name: NIAGARA MOHAWK DEWEY AVE SERVICE CENTER
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19920228
Handler Name: NIAGARA MOHAWK POWER CORPORATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940315
Handler Name: NIAGARA MOHAWK POWER CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19960315
Handler Name: NIAGARA MOHAWK POWER CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19980220
Handler Name: NIAGARA MOHAWK POWER CORP

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010101
Handler Name: NIAGARA MOHAWK POWER CORP
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020225
Handler Name: DEWEY AVE SVC CTR
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040223
Handler Name: DEWEY AVE SCR-NIAGARA MOHAWK
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060309
Handler Name: NATIONAL GRID
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20080303
Handler Name: DEWEY AVE SVC CTR	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	2211
NAICS Description:	ELECTRIC POWER GENERATION, TRANSMISSION AND DISTRIBUTION
NAICS Code:	22112
NAICS Description:	ELECTRIC POWER TRANSMISSION, CONTROL, AND DISTRIBUTION
NAICS Code:	221121
NAICS Description:	ELECTRIC BULK POWER TRANSMISSION AND CONTROL
NAICS Code:	221122
NAICS Description:	ELECTRIC POWER DISTRIBUTION
NAICS Code:	22121
NAICS Description:	NATURAL GAS DISTRIBUTION
NAICS Code:	334413
NAICS Description:	SEMICONDUCTOR AND RELATED DEVICE MANUFACTURING
NAICS Code:	44711
NAICS Description:	GASOLINE STATIONS WITH CONVENIENCE STORES

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19990825
Actual Return to Compliance Date:	19990910
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19990927
Enforcement Identifier:	000
Date of Enforcement Action:	19990827
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	NY
Corrective Action Component:	No

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	NYRWK
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Small Quantity Handlers
Date Violation was Determined:	20200116
Actual Return to Compliance Date:	20200117
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20200130
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	NYBMN
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19900626
Actual Return to Compliance Date:	19901106
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19900831
Enforcement Identifier:	001
Date of Enforcement Action:	19900731
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	NYDEC
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	20000718
Actual Return to Compliance Date:	20000718
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	20000903
Enforcement Identifier:	000
Date of Enforcement Action:	20000803
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	NY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	NYRFR
Enforcement Responsible Sub-Organization:	R9
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19980831
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19970812
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20010425
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	NYSRN
Evaluation Responsible Sub-Organization:	EGS
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871023
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Evaluation Date:	19960820
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20050125
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYKHE
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20020828
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20061003
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTCT
Evaluation Responsible Sub-Organization:	R8
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920618
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRHG

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19870514
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100909
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYKHE
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19851119
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19990825
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRWK
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	19990910
Scheduled Compliance Date:	19990927
Date of Request:	Not reported
Date Response Received:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20200116
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYBMN
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20200117
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19861119
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19940718
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRWK
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20080430
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYALS
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120828
Evaluation Responsible Agency:	State

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYTRN
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19860514
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901106
Scheduled Compliance Date:	19900831
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20041028
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	NYAPR
Evaluation Responsible Sub-Organization:	CO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20010810
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRWK
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890609
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20020122
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	EGS
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910611
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880928
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Evaluation Date:	20000718
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYRFR
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	20000718
Scheduled Compliance Date:	20000903
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20160304
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	NYNSL
Evaluation Responsible Sub-Organization:	R9
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871028
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	NYDEC
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

US FIN ASSUR:

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD000730390
County:	Not reported
Mechanism type:	T
Mechanism Type Description:	TRUST FUND (FULLY FUNDED)
Cost estimate:	93006
Face value:	2278192.24
Effective date:	2019-02-28 00:00:00
Provider:	THE BANK OF NEW YORK MELLON
EPA region:	2

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD000730390
County:	Not reported
Mechanism type:	T
Mechanism Type Description:	TRUST FUND (FULLY FUNDED)
Cost estimate:	650000
Face value:	2230644.01
Effective date:	2012-12-31 00:00:00
Provider:	THE BANK OF NEW YORK MELLON
EPA region:	2

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD000730390
County:	Not reported
Mechanism type:	T
Mechanism Type Description:	TRUST FUND (FULLY FUNDED)
Cost estimate:	650000
Face value:	2230650.92
Effective date:	2013-12-31 00:00:00
Provider:	THE BANK OF NEW YORK MELLON
EPA region:	2

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD000730390
County:	Not reported
Mechanism type:	T
Mechanism Type Description:	TRUST FUND (FULLY FUNDED)
Cost estimate:	650000
Face value:	2230650.92
Effective date:	2014-12-31 00:00:00
Provider:	THE BANK OF NEW YORK MELLON
EPA region:	2

Name:	NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address:	144 KENSINGTON AVE
City,State,Zip:	BUFFALO, NY 14214
EPA ID:	NYD000730390

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 650000
Face value: 2230654.18
Effective date: 2015-12-31 00:00:00
Provider: THE BANK OF NEW YORK MELLON
EPA region: 2

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY 14214
EPA ID: NYD000730390
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 271470
Face value: 2230677.35
Effective date: 2016-12-31 00:00:00
Provider: THE BANK OF NEW YORK MELLON
EPA region: 2

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY 14214
EPA ID: NYD000730390
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 92116
Face value: 2243378.07
Effective date: 2018-02-28 00:00:00
Provider: THE BANK OF NEW YORK MELLON
EPA region: 2

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY 14214
EPA ID: NYD000730390
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 650000
Face value: 2230644.01
Effective date: 2010-05-31 00:00:00
Provider: THE BANK OF NEW YORK MELLON
EPA region: 2

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY 14214
EPA ID: NYD000730390
County: Not reported
Mechanism type: L
Mechanism Type Description: LETTER OF CREDIT
Cost estimate: 95722
Face value: 400000

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) 1015757885

Effective date: 2021-03-24 00:00:00
Provider: SOCIETE GENERAL
EPA region: 2

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY 14214
EPA ID: NYD000730390
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 650000
Face value: 2230644.01
Effective date: 2009-12-31 00:00:00
Provider: THE BANK OF NEW YORK MELLON
EPA region: 2

Name: NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SERVICE CENTER
Address: 144 KENSINGTON AVE
City,State,Zip: BUFFALO, NY 14214
EPA ID: NYD000730390
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 650000
Face value: 2230644.01
Effective date: 2011-12-31 00:00:00
Provider: THE BANK OF NEW YORK MELLON
EPA region: 2

2020 COR ACTION:
EPA ID: NYD000730390
Region: 2
Action: Remedy Construction

PADS:
Name: DEWEY AVE SERVICE CTR
Address: 93 DEWEY AVE
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14214
EDR ID: 1015757885
EPAID: NYD000730390
Region: 02
Generator: Y
Storer: N
Disposer: N
Transporter: N
Smelter: N
Research Facility: N
Mailing Address: 300 ERIE BLVD W
Mailing Address 2: Not reported
Mailing City: SYRACUSE
Mailing State: NY
Mailing Zip: 13202
Mailing Country: US
Owner Name: NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORP A NATIONAL GRID CO - DEWEY AVE SER (Continued) **1015757885**

Certification Date: 03/15/1990
Contact Name: A F HUTCHINSON
Contact Title: Not reported
Contact Telephone: 716-831-7204
Contact Text: Not reported
Contact Email: Not reported

110
ENE
1/2-1
0.881 mi.
4651 ft.

Relative:
Higher

Actual:
645 ft.

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE **NY SHWS** **S104497613**
1001 EAST DELAVAN AVENUE **NY LTANKS** **N/A**
BUFFALO, NY 14215 **NY MOSF**
NY CBS
NY AST
NY Spills

SHWS:
Name: AMERICAN AXLE PLANT
Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14215
Program: HW
Site Code: 346870
Classification: Significant threat to the public health or environment - action required.
Region: 9
Acres: 2.653
HW Code: 915196
Record Add: 06/01/2005
Record Upd: 09/22/2022
Updated By: AECAPRIO
Site Description: Location: The American Axle Plant site is a 2.654-acre portion of a former manufacturing facility located in an urban area at 1001 East Delavan Avenue in the City of Buffalo, Erie County. The site is near the intersection of East Delavan and Cornwall Avenues. Site Features: The site is a portion of a former automobile drivetrain manufacturing facility. The former plant complex also includes plant facilities located on non-contiguous parcels at 1057 East Delavan (3.43 acres) and at 320 Scajacuada Street (8.31 acre Saginaw Site - 915152). The adjoining parcel contains plant facilities consisting of on-grade structures and paved surfacing. The surface water body nearest the site is the Scajaquada Creek Drain. There is a portion of a 5x9 foot oval combined sewer which runs beneath the site. The sewer is constructed from brick and serves as a combined sewer for the Buffalo Sewer Authority (BSA) sewer system. Several of the existing plant building were constructed over the 5x9 sewer. Numerous sewer laterals connect to the 5x9 oval sewer beneath the facility. The 5x9 oval sewer empties into the BSA Scajaquada Interceptor (interceptor) south of the site, which flows west to the BSA Wastewater Treatment Facility. A combined sewer overflow relief point, referred to by the BSA as Sewer Patrol Point (SPP) 337, is present at the junction of the 5x9 oval sewer and a vertical shaft leading to the BSA interceptor. There is also a groundwater recovery and treatment system is in operation on the site. Current Zoning and Land Use: The site is zoned industrial and is not in active use. The nearest residence is approximately 700 feet west of the site. Past Use of the Site: The former manufacturing facility was operated by General Motors from the 1920s to 1994. Initially, automobiles were assembled, and later automobile drivetrain components were manufactured. The site, along with the balance of the property, adjoining parcels, and the axle manufacturing business was sold to American Axle in 1994.

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

American Axle ceased its manufacturing operations at this facility in 2008 and sold the property including this site and adjoining parcels to East Delavan Property, LLC (EDP) in September 2008. The 2.654-acre site was subdivided from the larger plant complex in 2017. A portion of the 1001 East Delevan parcel is occupied by a sister entity of EDP and several other tenants. Site investigations began in 1991 after the discovery of a petroleum spill in the former B-26 coolant pit, which contained metal working oil contaminated with polychlorinated biphenyls (PCBs). Initial investigations were centered around the B-26 cooling pit. Site Geology: The overburden ranges from 6.5 to 20.7 feet and consists of fill, clay and till units above bedrock. Fill: The fill layer thickness varies between 0.2 feet to 15.5 feet and is composed of reworked soil, crushed concrete, gravel, foundry slag, crushed brick, cinders, wood, and metal and glass fragments. The southern end of the 1001 East Delavan and 320 Scajaquada Street parcels previously contained a free flowing creek (Scajaquada Creek) before being filled and relocated as a tunnel south of the site along Scajaquada Street (referred to as the Scajaquada Creek Drain). Clay: The clay layer consists of gray or black silt/clay in the upper horizon and red-brown clay in the lower horizon. The average thickness of the upper silt/clay is 2.4 feet and the average thickness of the red-brown clay is 8.5 feet. Till: The till is intermittently present overlying the bedrock. The average thickness of the till is 1.4 feet. Bedrock: The average depth to bedrock beneath the site is approximately 15.8 feet below ground surface. The bedrock consists of light to dark gray cherty limestone (Onondaga Limestone). Site Hydrogeology: Subsurface features beneath the 1001 East Delavan manufacturing plant influence groundwater flow, especially in the fill and upper clay layers. The primary influencing features are the 5X9 oval combined sewer and the former B-26 coolant pit. The groundwater/oil collection system installed in 2019 further depresses shallow groundwater around the 5x9 sewer.

Env Problem: Nature and Extent of Contamination: Based upon data from the November 2006 Remedial Investigation (RI) Report, the primary contaminant at the site is polychlorinated biphenyl (PCB) contaminated oil in the vicinity of the B-26 coolant pit and the surrounding area where the 5X9 oval sewer passes under the site. The draft June 2009 Supplemental RI concluded that adjoining areas beyond the defined site are also contaminated with PCB contaminated oil. The contamination at the site resulted from spills of hydraulic oils and heat transfer fluids containing PCBs which were used at the plant during plant operations. Petroleum Oil Characterization: A number of groundwater wells contained separate phase oil and varied by geologic unit. Fill Unit: Oil was noted in approximately 26 of the 107 borings installed for environmental investigations initiated in 1994. Oil was present in 13 out of 30 fill wells, with thickness ranging from 0.01 to 5.66 feet. Most of the wells containing oil are located east of the 5x9 sewer and south of the B-26 Coolant Pit. The greatest volume of oil found was in wells CP 14, M-1, M-3. The estimated volume of recoverable oil in the fill unit is 50,000 to 110,000 gallons. Clay Unit: Oil was present in 23 out of 40 wells sampled, with thickness from 0.01 to 12.83 feet. MW-400 showed the greatest amount of product. The estimated volume of recoverable oil in clay unit is 1000 gallons. Bedrock Unit: Oil was present in 9 out of 18 wells, with thickness ranging from 0.01 to 4.07 feet. PCB Characterization: The PCB Aroclor 1248 was detected most frequently at the site, followed by Aroclor 1242. Aroclors 1254 and 1260 were detected in a limited

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

number of samples and PCB concentrations also vary by geologic unit. PCBs in Soil: The characterization summary of PCBs in subsurface soils at the site is as follows: PCBs are present in subsurface soils, consisting of fill, at up to 64 parts per million (ppm) and in native clay at up to 50 ppm, exceeding the NYSDEC soil cleanup objective; PCBs found in subsurface soils occur in the same areas where oil is observed in the subsurface soils; and No PCBs were found in till. PCBs in Groundwater: The fill and clay wells showing the greatest volumes of oil do not necessarily show highest levels of PCBs. PCB results, by respective geologic unit wells, are as follows: Fill Unit Wells: PCBs were detected in oil samples from 10 of 11 wells sampled. PCB concentrations varied from 2.17 ppm in MW 401 to 3,850 ppm in CP 28. Clay Unit Wells: PCBs were detected in all 19 clay wells sampled. The concentrations ranged from 4.4 ppm in MW 2A to 440,000 ppm in MW 406. Well CP 17A showed 3,620 ppm PCBs. Another source area may be around GP 12 where PCBs were detected at 840 ppm. Bedrock Unit Wells: Six bedrock wells sampled showed presence of PCBs varying from 2.8 ppm in CP 27B to 4,350 ppm in CP 23B to 12,000 ppm in CP 16B. Based on the PCB concentrations in groundwater and soil and groundwater gradient, it does not appear that PCBs are migrating from the site. However, PCB contaminated oil was determined to be seeping into the 5x9 oval sewer that traverses the site and former automotive parts manufacturing complex. Samples, including wipe samples, seeping oil and wall scrapings indicated the following: Water samples from downgradient manholes showed PCBs up to 0.785 parts per billion (ppb). Samples from laterals to the oval sewer revealed PCB levels up to 2.31 ppb and a water sample from a sewer clean-out revealed PCBs up to 68 ppb; Oil was found in laterals connected to the oval sewer with PCB levels up to 4.7 ppm. Concentrations of PCBs in standing oil in the oval sewer ranged from 440 ppm to 1,500 ppm; and Samples of oil stains on the oval sewer wall indicated PCBs levels ranging from 95 ppm to 565 ppm. The B-26 Coolant Pit Interim Remedial Measure (IRM) was implemented in 1991 to begin recovery of the PCB contaminated oil from soil and groundwater around the B-26 coolant pit. Operation of the oil recovery system for the B-26 coolant pit is ongoing. An IRM to collect groundwater/oil in areas where measurable levels of oil were detected and intercept groundwater/oil from potentially seeping into the 5x9 sewer was implemented in 2019. The collected oil is separated from the influent and the groundwater is treated through the B-26 coolant pit groundwater treatment system prior to discharge to the BSA sewer. Further site assessment and evaluation of long term remedial action measures to address site contamination is underway (2022).

Health Problem:	Assessment to be determined by DOH at a later date.
Dump:	False
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	Not reported
Disp Term:	Not reported
Lat/Long:	42:55’15 /
Dell:	Not reported
Record Add:	Not reported
Record Upd:	Not reported
Updated By:	Not reported
Own Op:	1

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Sub Type:	05
Owner Name:	Jon Williams
Owner Company:	East Delavan Property, LLC
Owner Address:	140 Lee Street
Owner Addr2:	Suite 200
Owner City,St,Zip:	Buffalo, NY 14210
Owner Country:	United States of America
HW Code:	915196
Waste Type:	POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	915152
Cross Ref Type Code:	02
Cross Ref Type:	HW Site ID
Record Added Date:	2015-10-09 15:02:00
Record Updated:	2015-10-09 15:02:00
Updated By:	EWMELNYK

LTANKS:

Name:	AMERICAN AXLE AND MFG.
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9606709 / 1996-08-30
Facility ID:	9606709
Site ID:	330057
Spill Date:	1996-08-25
Spill Cause:	Tank Overfill
Spill Source:	Major Facility (MOSF) > 400,000 gal
Spill Class:	B3
Cleanup Ceased:	Not reported
SWIS:	1502
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1996-08-26
CID:	365
Water Affected:	Not reported
Spill Notifier:	Responsible Party
Last Inspection:	1996-08-29
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	1996-08-26
Spill Record Last Update:	1996-09-05
Spiller Name:	ANTHONY M. GLIECO
Spiller Company:	AMERICAN AXLE & MFG.
Spiller Address:	1001 EAST DELAVAN AVENUE
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9
DER Facility ID:	299351
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 8/26/96:SAC INSPECT SITE W/TONY GLIECO,AMERICAN AXLE & MFG., AMERICAN AXLE IN PROCESS OF CLEANING UP SPILL,OIL CONTAINED IN DIKE,THEY ARE RECOVERING OIL AND PUMPING IT BACK INTO THE TANK, THEY

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

WILL POWERWASH FLOOR AND PULL DIKE DRAIN PLUG TO ALLOW RESIDUAL TO BE WASHED IN PLANT SEWERLINES AND WWTP. 8/27/96:SAC TELECON TONY GLIECO,CLEANUP HAS BEEN COMPLETED. 8/29/96:SAC INSPECT SITE W/DIANE OLEARCZYK,AA&M,CLEANUP IS COMPLETED,DIKE FLOOR AND WALLS WERE CLEAN ACCEPT FOR SOME RESIDUAL STAINING. 9/4/96:RECEIVED COMPANY REPORT FROM A.R.MONICH/AA&M.

Remarks: tank overfill in the containment furnace when pumping oil back into the tank.

All Materials:

Site ID:	330057
Operable Unit ID:	1037846
Operable Unit:	01
Material ID:	563948
Material Code:	0007
Material Name:	cutting oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	1200.00
Units:	G
Recovered:	1200.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	SAGINAW DIV GMC
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	8907900 / 1990-03-29
Facility ID:	8907900
Site ID:	330034
Spill Date:	1989-10-25
Spill Cause:	Tank Failure
Spill Source:	Major Facility (MOSF) > 400,000 gal
Spill Class:	Not reported
Cleanup Ceased:	1990-03-29
SWIS:	1502
Investigator:	MJHINTON
Referred To:	Not reported
Reported to Dept:	1989-10-25
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Responsible Party
Last Inspection:	1989-10-26
Recommended Penalty:	False
Meets Standard:	True
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	1989-11-10
Spill Record Last Update:	1990-04-02
Spiller Name:	Not reported
Spiller Company:	SAGINAW DIV GMC
Spiller Address:	1001 EAST DELAVAN AVENUE
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	9

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

DER Facility ID: 299351
DEC Memo: Prior to Sept, 2004 data translation this spill Lead_DEC Field was MJH 11/10/89: SAGINAW TO REMOVE CONTAMINATED SOIL AS NECESSARY WATER TO BE PUMPED THROUGH OIL WATER SEPERATOR TO BSA, J CARUSO NOTIFIED IS INVOLVED W/ SAGINAW FOR NECESSARY PERMITS. 03/29/90: CONTAMIANTED SOIL DISPOSED OF AT ORLEANS COUNTY LANDFILL DISPOSAL RECIEPTS PROVIDED NO FURTHER ACTION NEEDED.
Remarks: EXCAVATION FOR NEW TANK FARM UNCOVERED CONTAMINATED SOIL AND APPARENT OIL PRODUCT ON GROUND WATER

All Materials:
Site ID: 330034
Operable Unit ID: 932825
Operable Unit: 01
Material ID: 444676
Material Code: 0022
Material Name: waste oil/used oil
Case No.: Not reported
Material FA: Petroleum
Quantity: .00
Units: G
Recovered: .00
Resource Affected: Groundwater
Oxygenate: Not reported

Name: AMERICAN AXLE
Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 9500171 / 1995-10-13
Facility ID: 9500171
Site ID: 330051
Spill Date: 1995-04-01
Spill Cause: Tank Failure
Spill Source: Major Facility (MOSF) > 400,000 gal
Spill Class: C3
Cleanup Ceased: Not reported
SWIS: 1502
Investigator: SACALAND
Referred To: Not reported
Reported to Dept: 1995-04-05
CID: Not reported
Water Affected: Not reported
Spill Notifier: Responsible Party
Last Inspection: 1995-10-13
Recommended Penalty: False
Meets Standard: True
UST Involvement: False
Remediation Phase: 0
Date Entered In Computer: 1995-04-05
Spill Record Last Update: 1995-10-16
Spiller Name: Not reported
Spiller Company: AMERICAN AXLE & MFG.
Spiller Address: 1001 EAST DELAVAN AVENUE
Spiller County: 001
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller Extention: Not reported

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

DEC Region: 9
DER Facility ID: 299351
DEC Memo: Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 04/06/95: SENT LETTER ASKING FOR 1)DETERMINATION WHY TANK IS TAKING ON WATER 2)DETERMINATION IF CONTAMINATION EXISTS,IF SO REMEDIATION PLAN REQUIRED 3)SAMPLE TANK CLOSING USING 8021 & 8270 B/N. 05/31/95: RNL AND SAC INSPECTION 05/22/95, TANK #17-5 BUCKLING ON BOTTOM, WISH TO CLOSE IN PLACE, AGREED TO INSTALL MW'S TO CHECK GW - REC. THEIR LETTER 05/31/95 AGREEING TO PLAN, OK. 06/07/95: RNL AND SAC INSPECTION 05/22/95, TANK #17-5 BUCKLING ON BOTTOM, WISH TO CLOSE IN PLACE, AGREED TO INSTALL MW'S TO CHECK GW - REC. THEIR LETTER 05/31/95 AGREEING TO PLAN. 10/13/95: RECEIVED SOIL BORING & GW ANALYTICAL RESULTS,ALL PARAMETERS ARE BQL,ALTHOUGH TANK TOOK ON WATER IT APPARENTLY DID NOT LEAK.
Remarks: 2 50K UST'S (CONTAINING #6 FUEL OIL) TAKING ON WATER.

All Materials:
Site ID: 330051
Operable Unit ID: 1010936
Operable Unit: 01
Material ID: 368784
Material Code: 0003A
Material Name: #6 fuel oil
Case No.: Not reported
Material FA: Petroleum
Quantity: .00
Units: L
Recovered: .00
Resource Affected: Groundwater
Oxygenate: Not reported

MOSF:
Name: AMERICAN AXLE & MANFACTURING INC. BUFFALO PLANT
Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14215
Facility ID: 9-1600
Program Type: MOSF
Tank Status: Unregulated/Closed
Expiration Date: Not reported
Dec Region: 9
UTMX: 188298.69820
UTMY: 4759295.61100

CBS:
Name: AMERICAN AXLE & MANUFACTURING, INC.
Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14240-0972
CBS Number: 9-000110
Program Type: CBS
Facility Status: Unregulated/Closed
Expiration Date: Not reported
Dec Region: 9
UTMX: 188298.69820
UTMY: 4759295.61100

Name: EAST DELAVAN PROPERTY LLC

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14215
CBS Number: 9-000081
Program Type: CBS
Facility Status: Unregulated/Closed
Expiration Date: Not reported
Dec Region: 9
UTMX: 188227.57413
UTMY: 4759171.08638

AST:
Name: AMERICAN AXLE & MANUFACTURING, INC.
Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY 14240-0972
Region: STATE
DEC Region: 9
Site Status: Unregulated/Closed
Facility Id: 9-000110
Program Type: CBS
UTM X: 188298.69820
UTM Y: 4759295.61100
Expiration Date: N/A
Site Type: Manufacturing (Other than Chemical)/Processing

Tank Info:

Tank Number: 39
Tank Id: 184140
Tank Location: Aboveground - contact with soil.... Tank bottom rests on soil, allowing no visual inspection.
Tank Type: Steel/Carbon Steel/Iron
Tank Status: Tank Converted to Non-Regulated Use
Pipe Model: Not reported
Install Date: 06/01/1974
Capacity Gallons: 500
Tightness Test Method: NN
Date Test: Not reported
Next Test Date: Not reported
Date Tank Closed: 03/01/2000
Register: True
Modified By: MJGRIFFI
Last Modified: 05/09/2022
Material Name: Not reported

SPILLS:
Name: MODERN COMPACTOR
Address: 1001 EAST DELAVAN AVENUE
City,State,Zip: BUFFALO, NY
Spill Number/Closed Date: 9975235 / 1999-09-14
Facility ID: 9975235
Facility Type: ER
DER Facility ID: 299351
Site ID: 150994
DEC Region: 9
Spill Cause: Equipment Failure
Spill Class: C3
SWIS: 1502

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Spill Date:	1999-06-22
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1999-06-23
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	1999-06-29
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1999-06-23
Spill Record Last Update:	1999-09-29
Spiller Name:	TOD DAVIDSON
Spiller Company:	MODERN DISPOSAL
Spiller Address:	4746 MODEL CITY ROAD
Spiller Company:	001
Contact Name:	TONY GLIECO
DEC Memo:	HYDRAULIC LINE RUPTURED ON COMPACTOR. SPILLED ON PAD. CONTAINED, WILL BE PICKED UP & DISPOSED OF.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 06/23/99: SAC TELECON FROM TONY GLIECO, AMERICAN AXLE & MFG., HE WANTED TO MAKE SURE SPILL WAS REPORTED, MODERN IS GOING TO TAKE CARE OF THE CLEANUP, SMALL AMOUNT OF OIL WENT INTO A CATCH BASIN THAT LEADS TO THE SEWER, PRODUCT WAS REMOVED BEFORE IT COULD ENTER THE SEWER, SPILL WENT TO PAVEMENT AND MODERN PLACED SPEEDI-DRY TO CLEANUP SPILL, MODERN IS IN THE PROCESS OF REPAIRING THE COMPACTOR UNIT AND SPEEDI-DRY IS PLACED AROUND IT IN CASE OF ANY LEAKS DURING THE REPAIR, THEY ARE GOING TO PLACE SPEEDI-DRY AROUND THE COMPACTOR ALSO TO ABSORB ANY SPILLAGE PRESENT AROUND THE COMPACTOR, THE COMPACTOR IS SITTING ON A PAD OF CONCRETE THAT IS ONLY A FEW DAYS OLD, THEY NEED A TRUCK TO MOVE THE COMPACTOR BUT SINCE THE CONCRETE IS NEW THEY DO NOT WANT TO DRIVE A TRUCK ON IT BECAUSE THIS WOULD CAUSE IT TO CRACK, SO THEY ARE GOING TO WAIT UNTIL NEXT WEEK TO MOVE THE COMPACTOR AND THEN REMOVE THE SPEEDI-DRY AND SCRUB THE AREA, MODERN IS TAKING CARE OF THE CLEANUP AND DISPOSAL. 06/29/99: SAC SITE INSPECTION, MET TONY GLIECO, SPILL WAS CLEANED UP AS MUCH AS POSSIBLE, THEY STILL WILL BE MOVING THE COMPACTOR TO TRY TO CLEANUP WHATEVER MAY BE UNDERNEATH, AREAS THAT WERE ACCESSIBLE WERE CLEANED UP WITH RESIDUAL STAINING REMAINING ON THE PAVEMENT, MR. GLIECO WILL SEND IN A LETTER REPORT ONCE ALL WORK HAS BEEN COMPLETED, NO ADDITIONAL INSPECTIONS ARE NECESSARY. 08/09/99: SAC TELECON TONY GLIECO TO SEE IF MR. GLIECO WAS GOING TO SEND IN LETTER REPORT, MR. GLIECO WAS AWAY FROM HIS PHONE SO SAC LEFT MESSAGE MR. GLIECO TELECON TO SAL, LEFT MESSAGE, HE IS GOING TO SEND IN LETTER REPORT BUT WAS WAITING FOR MODERN DISPOSAL TO SEND HIM THE INFORMATION, MR. GLIECO WILL FORWARD THE LETTER REPORT TO DEC AFTER HE RECEIVES THIS INFORMATION. 09/09/99: SAC TELECON TOD DAVIDSON, MODERN DISPOSAL, HE JUST RECEIVED DISPOSAL PAPERWORK AND HAS SENT IT TO TONY GLIECO, MR. GLIECO WILL MAKE A COPY OF THE RECEIPT AND INCLUDE IT WITH HIS COMPANY LETTER REPORT. 09/14/99: SAC RECEIVED DISPOSAL RECEIPT AND COMPANY LETTER REPORT FROM AMERICAN AXLE & MFG.

All Materials:

Site ID:	150994

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Operable Unit ID:	1093745
Operable Unit:	01
Material ID:	291750
Material Code:	0010
Material Name:	hydraulic oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	25.00
Units:	G
Recovered:	24.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	AMERICAN AXLE
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0175422 / 2001-11-23
Facility ID:	0175422
Facility Type:	ER
DER Facility ID:	299351
Site ID:	248675
DEC Region:	9
Spill Cause:	Traffic Accident
Spill Class:	D4
SWIS:	1502
Spill Date:	2001-11-16
Investigator:	BRENNAN
Referred To:	Not reported
Reported to Dept:	2001-11-16
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Passenger Vehicle
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2001-11-16
Spill Record Last Update:	2002-09-26
Spiller Name:	Not reported
Spiller Company:	UNIDENTIFIED EMPLOYEE
Spiller Address:	Not reported
Spiller Company:	001
Contact Name:	DIANNE RAY
DEC Memo:	PICKUP TRUCK HIT LAMP POST IN PARKING LOT 4; OIL SPILLED TO PAVEMENT AS A RESULT OF DAMAGE TO VEHICLE. APPROXIMATELY 1 QT. OF THE OIL GOT TO A DRAIN WHICH LEADS TO SCAJAQUADA CREEK. REMAINDER OF OIL BEING CLEANED UP BY AMERICAN AXLE.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was KAB 11/23/01: KAB RECEIVED INCIDENT REPORT FROM GERALD COSTER OF AMERICAN AXLE. ALL SPILLAGE, INCLUDING THE ESTIMATED 1 QUART OF OIL THAT WENT TO THE SEWER DRAIN, WAS RECOVERED. NO FURTHER ACTION NECESSARY. CLOSE OUT.

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

All Materials:

Site ID:	248675
Operable Unit ID:	850794
Operable Unit:	01
Material ID:	524755
Material Code:	0015
Material Name:	motor oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	3.00
Units:	G
Recovered:	3.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	SUBSTATION NO. 7
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0375420 / 2004-01-14
Facility ID:	0375420
Facility Type:	ER
DER Facility ID:	299351
Site ID:	254334
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	D4
SWIS:	1502
Spill Date:	2003-12-11
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	2003-12-11
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2003-12-11
Spill Record Last Update:	2004-01-14
Spiller Name:	TONY GLIECO
Spiller Company:	AMERICAN AXLE & MFG.
Spiller Address:	1001 EAST DELAVAN AVE
Spiller Company:	001
Contact Name:	TONY GLIECO
DEC Memo:	DRIP TEST PORT ON A TRANSFORMER, LESS THAN A GALLON OF PCBs
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 12/11/03:SAC TELECON TONY GLIECO, SMALL AMOUNT OF OIL SPILLED, BUT IT IS ALMOST PURE PCBs, THE TRANSFORMER HAS CONTAINMENT WITH EPOXY, THE SPILL WAS ABSORBED AND WIPED, CONTAMINATED MATERIAL WILL BE PROFILED FOR DISPOSAL, TRANSFORMER WILL BE ASSESSED TO DETERMINE WHAT CAUSED THE TEST VALVE TO LEAK, SQUARE D IS THE ELECTRICAL CONTRACTOR AND CLEAN HARBORS IS THE ENVIRONMENTAL CONTRACTOR FOR

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

SQUARE D. 12/15/03:DRAFTED LETTER TO TONY GLIECO REGARDING CLEANUP REQUIREMENTS. 1/13/04:RECEIVED COMPANY REPORT FROM NORMAN WEBER - AMERICAN AXLE & MFG., INCLUDING DISPOSAL RECEIPTS AND ANALYTICAL RESULTS. 1/14/04:SAC DISCUSS SITE AND REPORT W/CAMERON O'CONNOR - NYSDOH, BASED ON WHAT WAS REPORTED NO FURTHER WORK IS REQUIRED.

All Materials:

Site ID:	254334
Operable Unit ID:	882259
Operable Unit:	01
Material ID:	494607
Material Code:	0017A
Material Name:	PCB oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	G
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	AMERICAN AXLE
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0175494 / 2002-02-19
Facility ID:	0175494
Facility Type:	ER
DER Facility ID:	299351
Site ID:	254333
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	C3
SWIS:	1502
Spill Date:	2002-02-07
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	2002-02-07
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial Vehicle
Spill Notifier:	Affected Persons
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2002-02-07
Spill Record Last Update:	2002-02-19
Spiller Name:	TINA MCGOVERN
Spiller Company:	LANDSTAR INWAY
Spiller Address:	1000 SIMPSON RD POB 7013
Spiller Company:	001
Contact Name:	TONY GLIECO
DEC Memo:	LICENSE PLATE NO. P211721 - ILLINOIS, DRIVER'S NAME GEORGE GREGORIO, TRACTOR-TRAILER HAD A LEAK IN CROSS OVER PIPE, LEAK WENT TO PAVEMENT, NEXT TO RAILROAD TRACKS AND

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

POSSIBLY THE SEWER, MR. GLIECO
WILL NOTIFY BSA.

Remarks: Prior to Sept, 2004 data translation this spill Lead_DEC Field was MF
2/7/02:SAC TELECON TONY GLIECO - AA&M, LANDSTAR TRUCK WAS FOUND WITH THE CROSSOVER LINE LEAKING WHILE MAKING A DELIVERY, THEY ARE UNSURE WHAT CAUSED THE PUNCTURE IN THE CROSSOVER LINE, THERE WAS A SHEEN IN THE ROADWAY BUT DUE TO HEAVY TRAFFIC ALONG DELAVAN IT IS NOT CLEAR IF LEAK WAS CAUSED OUT THERE, MR. GLIECO SAID HE WOULD HAVE THOUGHT MORE PRODUCT WOULD HAVE BEEN FOUND OUT IN THE STREET IF THE LEAK HAD STARTED OUT THERE, ALSO NOTHING WAS FOUND ON-SITE WHICH MIGHT HAVE CAUSED THE PUNCTURE SO CAUSE OF THE PUNCTURE IS UNKNOWN, THEY SHUT THE VALVE ON THE CROSSOVER LINE TO STOP THE ONE SADDLE TANK FROM DRAINING, THEY PLACED A POLYPROPYLENE PAN WITH A ROLLOUT BAG UNDER THE PUNCTURED LINE TO COLLECT THE LEAKING PRODUCT, THEY USED A SCRUBBER TO COLLECT AND CLEAN THE PAVEMENT, THEY WILL EXCAVATE THE AREA NEAR THE RAILROAD TRACKS AS FAR AS THEY CAN WITHOUT UNDERMINING THE TRACKS. 02/07/02: MF S/I/TONY GLIECO, ET AL, AAM. HMHTTC HIRED BY RP TO CLEAN SITE. MOST OF SPILLAGE ON CONCRETE, NO DRAINS INVOLVED. SOME SPILLAGE GOT TO RR TRACKS, THIS WILL ALSO BE REMOVED. DEBRIS TO BE STAGED IN DRUMS. LIQUID IN AAM'S SWEEPER WILL BE PUMPED OUT, SWEEPER TANK CLEANED & PUMPED AGAIN, LIQUID WILL BE DISPOSED OF. SPEEDY DRY IN PLACE & WILL BE SWEPT UP. 02/08/02: MF S/I/TONY GLIECO, AREA CLEANED, TONY HAPPY. I NOTICED 6 STAGED DRUMS. 02/08/02: MF T/C CHARLEY BARRETT, SPILL RESPONSE MANAGEMENT, 770-736-6008, PO BOX 1666, SNELLVILLE, GEORGIA, 30078. EXPLAINED THAT REPORT & DISPOSAL RECEIPTS NECESSARY. HE WILL SEND THEM TO ME. HE WAS HIRED BY LANDSTAR TO OVER SEE CLEAN UP. HE HIRED HMHTTC. 02/13/02: MF 1ST DISPOSAL & REPORT LETTER, DUE 3/15/02. 02/15/02: MF RECEIVED REPORT & DISPOSAL RECEIPT. NO FURTHER ACTION NECESSARY. SPILL CLOSED.

All Materials:

Site ID:	254333
Operable Unit ID:	850864
Operable Unit:	01
Material ID:	524827
Material Code:	0008
Material Name:	diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	30.00
Units:	G
Recovered:	29.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	EAST FIRE LANE
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	0550925 / 2005-09-29
Facility ID:	0550925
Facility Type:	ER
DER Facility ID:	299351
Site ID:	352055
DEC Region:	9
Spill Cause:	Other
Spill Class:	C4
SWIS:	1502

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Spill Date:	2005-09-01
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	2005-09-02
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2005-09-02
Spill Record Last Update:	2005-09-29
Spiller Name:	TONY GLIECO
Spiller Company:	AMERICAN AXLE & MFG.
Spiller Address:	P.O. BOX 972
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	UNDERGROUND SPRINKLER LINE BLEW UP FORCING WATER UP ALONG W/POCKETS OF OIL. MODERN DISPOSAL HAS BEEN CALLED IN TO VACUUM UP WATER. THEY WILL BE EXCAVATING TO REPAIR LINE. THIS IS IN THE AREA OF A HISTORIC SPILL - 8807272. THAT SPILL WAS CUTTING OIL.
Remarks:	9/20/05:RECEIVED COPY OF MEMO FROM TONY GLIECO TO JIM OVERHOLT - BSA REGARDING ANALYTICAL RESULTS FROM OILY WATER. MEMO INDICATES RESULTS SHOW WATER TO BE NON-HAZ AND THEY ARE REQUESTING DISCHARGE OF WATER TO PLANT WWTP. 9/29/05:RECEIVED COMPANY REPORT INCLUDING DISPOSAL RECEIPTS. NO FURTHER WORK REQUIRED.

All Materials:

Site ID:	352055
Operable Unit ID:	1109568
Operable Unit:	01
Material ID:	2099579
Material Code:	0007
Material Name:	cutting oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	G
Recovered:	Not reported
Resource Affected:	Soil
Oxygenate:	False

Name:	GM CORPORATION
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9400483 / 2004-08-11
Facility ID:	9400483
Facility Type:	ER
DER Facility ID:	299351
Site ID:	82131
DEC Region:	9
Spill Cause:	Unknown

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Spill Class:	B3
SWIS:	1502
Spill Date:	1994-04-11
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1994-04-11
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	1994-04-14
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1994-04-21
Spill Record Last Update:	2004-08-11
Spiller Name:	Not reported
Spiller Company:	GM CORPORATION
Spiller Address:	485 WEST MILWAUKEE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	FOUND FREE PRODUCT WHILE DRILLING
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 04/14/94: SAC/TONY GLIECO/SITE - FOUND BORING LOCATIONS WHERE CONTAMINATION WAS FOUND. CONTAMINATION NOT SEEN IN GROUNDWATER; WILL RUN SAMPLES FOR TPH. SAC INDICATED 8270 WOULD HAVE TO BE RUN; BORINGS FILLED IN. 04/20/94: SAC/MARK NAPOLITAN/TELECON - PHASE II REPORT TO BE COMPLETED AND SENT TO DEC IN JULY OR AUGUST OF 1994. WILL ALSO BE PROPOSING REMEDIATION RECOMMENDATIONS. LETTER SENT. 11/30/94: SAC MET W/MARK NAPOLITAN/GM CONSULT.PHASE II COMPLETED AND RECEIVED, PHASE 3-FURTHER INVESTIGATION TO DETERMINE EXTENT OF CONT. WILL BE DONE.WORK PLAN TO BE SUBMITTED END OF THIS YR. OR BEGIN OF NEXT. 03/11/95: RECEIVED LETTER FROM M.NAPOLITAN/GM CONSULT,1)GM PREP SITE PLAN TO SHOW WHERE OIL WAS & WASNT FOUND FOR 3/95.2)BIDS OUT FOR CONTRACT.TO DO EXT. OF CONT.STUDY IN LATE SPR.95&REP.READY IN LATE FALL'95. 12/20/95:RECEIVED DISPOSAL RECEIPTS FROM TONY GLIECO AMERICAN AXLE &MFG. REGARDING CONT.SOIL FROM CONSTRUCTION PROJECTS GOING ON AT THE RAILROAD CAR SCALE,TRUCK SCALE,SPRINKLER SYSTEM FIRE LOOP LINE REPAIR,SENT LETTER TO MARK NAPOLITAN-GM REQUESTING STATUS OF PHASE III REPORT,RESPONSE BY 1/15/96. 1/16/95:RECEIVED LETTER FROM M.NAPOLITAN/GM,PHASEIII EOC STUDY TO START IN SPRING OF '96. 9/3/96:SENT LETTER REQUESTING STATUS OF PHASE III EOC STUDY REPORT BY 10/15/96. 3/24/97:SENT NO RESPONSE LETTER RE:PHASE III EOC STUDY REPORT, REQUESTING RESPONSE BY 4/30/97. 3/31/97:RECEIVED LETTER FROM GM INDICATING PHASE III WORK WILL CONTINUE IN SPRING '97 WITH REPORT TO FOLLOW. 8/8/97:FG RECEIVED REPORT FROM CHUCK BERND/AAM-FREE PRODUCT FOUND IN BAY AA-1,PRODUCT IS BEING PUMPED TO DRUMS AND CLEANING UP SITE, THIS PRODUCT WAS FOUND UNDER CONCRETE FLOOR AND THEREFORE HISTORIC WHICH IS WHY IT IS BEING INCLUDED IN THIS SPILL,CLEANUP WILL BE MONDAY 8/11/97. 8/11/97:SAC ATTEMPTED TO CALL BACK CHUCK BERND,LEFT MESSAGE MR.BERND CALLED BACK BUT LEFT MESSAGE,SAC RE-ATTEMPTED TO CALL BACK LEFT MESSAGE. 8/18/97:SAC TELECON CHUCK BERND,CLEANUP HAS BEEN COMPLETED AND BACKFILLED,CLEANUP ONLY TO VISUAL,NO SAMPLES TAKEN,AMERICAN AXLE WILL DISPOSE OF CONTAMINATED SOIL,REQUESTED DISPOSAL RECEIPTS ONCE COMPLETED.

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

10/15/97:RECEIVED AMERICAN AXLE & MFG.'S REPORT ON THE BAY AA-1 PROJECT INCLUDING SITE DIAGRAM AND DISPOSAL RECEIPTS,LETTER REQUESTED THAT THIS SPILL BE KEPT SEPARATE FROM 9400483,THEREFORE NEW SPILL NO. IS 9708298,ALL DOCUMENTATION REGARDING THIS FILE WILL BE UNDER 9708289. 3/12/98:SAC TELECON BARBARA SULLIVAN-BLASLAND,BOUCK,& LEE,WORK IS CONTINUING THIS SPRING AT PLANT,SO PHASE III REPORT WILL NOT BE COMING IN NEAR FUTURE. MS.SULLIVAN'S PHONE NUMBER IS 561-750-3733 & PETER SPENSE IN THE ROCHESTER OFFICE IS (716)292-6715. 12/7/99:SAC CALLED BARBARA SULLIVAN BUT SHE WAS NOT THERE, LEFT MESSAGE FOR A CALL BACK. 12/8/99:SAC TELECON BARBARA SULLIVAN, MS. SULLIVAN SAID THE REPORT HAS BEEN COMPLETED AND WAS SENT TO GM A COUPLE OF MONTHS AGO AND THEY ARE WAITING FOR GM'S APPROVAL TO RELEASE THE REPORT, THEY WILL BE MEETING W/MARK NAPOLITAN AROUND THE END OF THE MONTH AND WILL DISCUSS THIS WITH HIM THEN. 12/18/00:SAC CALLED MARK NAPOLITAN AND BARBARA SULLIVAN AND LEFT MESSAGE FOR A CALLBACK. 12/21/00:RECEIVED CALLBACK FROM MARK NAPOLITAN, MR. NAPOLITAN LEFT MESSAGE FOR A CALLBACK, SAC CALLED MR. NAPOLITAN BACK AND LEFT ANOTHER MESSAGE FOR A CALLBACK. 1/10/01:SAC CALLED MARK NAPOLITAN, LEFT MESSAGE FOR A CALLBACK. 1/10/01:SAC CALLED BARBARA SULLIVAN, MS. SULLIVAN IS STILL WORKING ON THE REPORT, SHE BELIEVES IT WILL BE DONE THIS WEEK AND SHE WILL SEND IT OFF TO MR. NAPOLITAN FOR HIS REVIEW, SAC SAID THE LAST TIME HE SPOKE TO MS. SULLIVAN HE WAS TOLD THAT REPORT HAD BEEN FINALIZED, MS. SULLIVAN SAID THAT THERE WAS A PROBLEM WITH THE ON-SITE SEWER SYSTEM FOR OIL AND GREASE AND THAT THEY HAD TO INVESTIGATE THE PROBLEM AND THEY NEEDED TO INCLUDE THIS INTO THE REPORT. 1/30/01:SENT NO RESPONSE LETTER TO MARK NAPOLITAN, REQUIRE COPY OF REPORT BY 3/30/01. 3/27/01:SAC RECEIVED PHONE MESSAGE FROM KATHY GALANTI - CONESTOGA ROVERS, THEY ARE WORKING W/BBL AND WILL BE SUBMITTING THE REPORT THIS MONDAY 4/3/01. 9/15/03:SAC TELECON CAROL BARRON - CONESTOGA ROVERS (297-6150), THEY SCRAPED ANOTHER SAMPLE FROM THE SEWER THIS PAST FRIDAY, THEY RETESTED THE WATER FROM MW-406, THEY WILL BE DOING ADDITIONAL INVESTIGATION AROUND MW-406 ALONG WITH THE PROPOSED WORK IN THE REPORT NEXT MONTH AND HOPE TO BE COMPLETED BY THANKSGIVING, THEY ARE ATTEMPTING TO SET UP MEETING W/BSA SOON BUT THEY SPOKE TO JIM OVERHOLT W/BSA AND HE REQUESTED IT BE DELAYED UNTIL NEW DIRECTOR IS UP TO SPEED ON PROJECT. 8/3/04:SAC TELECON KATHY GALANTI - CONESTOGA ROVERS. THEY HAVE FOUND A POOL OF OIL IN COMBINED SEWER LATERAL THAT WAS ANALYZED AND FOUND TO HAVE 1300 ppm OF PCBs. THE LATERAL IS NOT CONNECTED TO A KNOWN SOURCE. THEY WILL BE INSPECTING SEWER NEXT WEEK AND WILL BE RESAMPLING TO CONFIRM RESULTS. SINCE THERE IS NO APPARENT SOURCE FOR THE OIL, IT APPEARS THAT THE OIL HAS INFILTRATED THE SEWER. ONCE INVESTIGATION OF SOURCE HAS BEEN COMPLETED, THEY WILL PLUG THIS LINE. BSA HAS BEEN NOTIFIED OF THIS FINDING. 8/11/04:RECEIVED e-MAIL FROM DKK INSTRUCTING TO TRANSFER SITE TO LONG TERM REMEDIAL GROUP FOR FURTHER FOLLOWUP. SPILL CLOSED OUT, FILE GIVEN TO JASPAL WALIA.

All Materials:

Site ID:	82131
Operable Unit ID:	994194
Operable Unit:	01
Material ID:	387797
Material Code:	0066A
Material Name:	unknown petroleum
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	.00
Units:	L

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY 14215
Spill Number/Closed Date:	0485542 / 2005-03-04
Facility ID:	0485542
Facility Type:	ER
DER Facility ID:	272724
Site ID:	337381
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	C3
SWIS:	1502
Spill Date:	2005-02-01
Investigator:	MXFRANKS
Referred To:	Not reported
Reported to Dept:	2005-02-10
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	Not reported
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	2005-02-10
Spill Record Last Update:	2005-03-04
Spiller Name:	TONY GLIECO
Spiller Company:	AMERICAN AXLE & MFG
Spiller Address:	P.O. BOX 972
Spiller Company:	001
Contact Name:	TONY GLIECO
DEC Memo:	leaking test valve on a transformer spilled what is estimated over 1 lb of PCB oil. McConnell Electric was called for the repair and cleanup.
Remarks:	2/10/05:SAC telecon Tony Glieco. They had a drip pan under the test valve. However, by the time they discovered the leak, the oil had spilled over the drip pan. Note to file:Although spill date recorded as 2/1/05, 1200 hrs, based on uncertainty of when spill actually occurred, spill was reported within 2 hours of discovery. 02/11/05: MF T/C TONY GLIECO, SMALL SPILL ALL ON CONCRETE, ALL CLEANED. HE WILL SEND REPORT. 03/04/05: MF RECEIVED REPORT & DISPOSAL RECEIPTS. NO FURTHER ACTION NECESSARY.

All Materials:

Site ID:	337381
Operable Unit ID:	1099346
Operable Unit:	01
Material ID:	579686
Material Code:	0017A
Material Name:	PCB oil
Case No.:	Not reported

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Material FA:	Petroleum
Quantity:	3.00
Units:	L
Recovered:	Not reported
Resource Affected:	Impervious Surface
Oxygenate:	False

Name:	SAGINAW STEERING GEAR DIV
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9208317 / 1993-05-19
Facility ID:	9208317
Facility Type:	ER
DER Facility ID:	299351
Site ID:	330044
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	C3
SWIS:	1502
Spill Date:	1992-10-01
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1992-10-01
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Major Facility (MOSF) > 400,000 gal
Spill Notifier:	Responsible Party
Cleanup Ceased:	1993-05-19
Cleanup Meets Std:	True
Last Inspection:	1992-11-19
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1992-10-20
Spill Record Last Update:	1993-05-24
Spiller Name:	Not reported
Spiller Company:	SAGINAW STEERING GEAR DIV
Spiller Address:	1001 EAST DELAVAN AVENUE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	DURING EXCAVATION FOR PIPING AND CONTAINMENT IMPROVEMENTS, CONTAMINATION FOUND.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 10/08/92: SAC/SITE - MET W/TONY GLIECO. CONTAMINATED SOIL HAS BEEN STAGED ON AND COVERED WITH PLASTIC. MODIFICATIONS CONTINUING, AND THERE IS STILL MORE STONE AND SOIL TO BE REMOVED. 05/19/93: SAMPLE RESULTS AND DISPOSAL RECEIPTS RECEIVED.

All Materials:

Site ID:	330044
Operable Unit ID:	975170
Operable Unit:	01
Material ID:	408908
Material Code:	0003A
Material Name:	#6 fuel oil
Case No.:	Not reported
Material FA:	Petroleum

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Quantity:	.00
Units:	Not reported
Recovered:	.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	SAGINAW STEERING GEAR DIV
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9302434 / 1993-05-20
Facility ID:	9302434
Facility Type:	ER
DER Facility ID:	299351
Site ID:	330045
DEC Region:	9
Spill Cause:	Human Error
Spill Class:	C3
SWIS:	1502
Spill Date:	1993-05-20
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1993-05-20
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	1993-05-20
Cleanup Meets Std:	True
Last Inspection:	1993-05-20
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1993-05-24
Spill Record Last Update:	1993-05-24
Spiller Name:	Not reported
Spiller Company:	SAGINAW STEERING GEAR DIV
Spiller Address:	PO BOX 972
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	OIL SPILLED FROM HOPPER TO CONCRETE PAD.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 05/20/93: SAC/CHUCK BERND/MEETING - SPILL CAUSE FROM SLUDGE HOPPER FROM AN OIL/WATER CATCH BASIN. OIL SUCKED UP AND PUT INTO WASTEWATER TREATMENT AREA. CONT. SPEEDY-DRI IN HOPPER FOR BFI. NO FURTHER ACTION.

All Materials:

Site ID:	330045
Operable Unit ID:	984449
Operable Unit:	01
Material ID:	399557
Material Code:	0022
Material Name:	waste oil/used oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	60.00
Units:	G

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Recovered:	60.00
Resource Affected:	Soil
Oxygenate:	Not reported

Name:	TRISTATE EXPEDITION CO.
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9304023 / 1993-07-06
Facility ID:	9304023
Facility Type:	ER
DER Facility ID:	299351
Site ID:	330046
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	D4
SWIS:	1502
Spill Date:	1993-06-28
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1993-06-28
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Affected Persons
Cleanup Ceased:	1993-07-06
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1993-06-30
Spill Record Last Update:	1993-07-23
Spiller Name:	Not reported
Spiller Company:	TRISTATE EXPEDITING CO.
Spiller Address:	Not reported
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	FUEL LINE BROKE ON DIESEL TRUCK
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 07/06/93: SPILL CLEANED UP,T.GLIECO/SAGINAW SENT REPORT.

All Materials:

Site ID:	330046
Operable Unit ID:	982310
Operable Unit:	01
Material ID:	397557
Material Code:	0008
Material Name:	diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	2.00
Units:	G
Recovered:	1.00
Resource Affected:	Soil
Oxygenate:	Not reported

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Name:	AMERICAN AXLE & MANUFACTU
Address:	1001 EAST DELAVAN AVENUE
City,State,Zip:	BUFFALO, NY
Spill Number/Closed Date:	9400806 / 1995-01-10
Facility ID:	9400806
Facility Type:	ER
DER Facility ID:	299351
Site ID:	330049
DEC Region:	9
Spill Cause:	Equipment Failure
Spill Class:	A3
SWIS:	1502
Spill Date:	1994-04-15
Investigator:	SACALAND
Referred To:	Not reported
Reported to Dept:	1994-04-15
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	1995-01-10
Cleanup Meets Std:	True
Last Inspection:	1994-04-18
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	1994-04-21
Spill Record Last Update:	1995-01-10
Spiller Name:	Not reported
Spiller Company:	AMERICAN AXLE & MANUFACTU
Spiller Address:	1001 EAST DELAVAN AVENUE
Spiller Company:	001
Contact Name:	Not reported
DEC Memo:	UNIT SHUT DOWN. DIGS PUT IN PLACE. LEAKING CONTINUING.
Remarks:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was SAC 04/18/94: SAC/TONY GLIECO/SITE - SPILL CLEANED UP. WOOD BLOCKS FROM FLOOR REMOVED. CONTAMINATED MATERIAL IN DRUMS. SPILL CLEANED UP ON CEILING. WIPE SAMPLING NEEDED. MR. GLIECO WILL SEND REPORT. LTR SENT. 06/14/94: RECEIVED DISPOSAL RECEIPTS,ANALYTICAL REPORT FOR THE FLOOR AND THE BEAM,SUBSTATION HAS BEEN CLEANED UP,BUT NEEDS TO BE SAMPLED. 01/09/95: RECEIVED DISPOSAL RECEIPTS,ANALYTICAL REPORT FOR THE FLOOR AND THE BEAM,SUBSTATION HAS BEEN CLEANED UP,SAMPLING BELOW 100UG/SQ CM. AND ENCAPSULATED.

All Materials:

Site ID:	330049
Operable Unit ID:	994513
Operable Unit:	01
Material ID:	564384
Material Code:	0017A
Material Name:	PCB oil
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	2.00
Units:	G
Recovered:	2.00
Resource Affected:	Soil
Oxygenate:	Not reported

SUBSTATION 7 - 2ND FLOOR OF THE POWERHOUSE (Continued) **S104497613**

Click this hyperlink while viewing on your computer to access
45 additional NY SPILL: record(s) in the EDR Site Report.

111
East
1/2-1
0.936 mi.
4943 ft.

SAGINAW - BUFFALO
320 SCAJAQUADA ST.
BUFFALO, NY 14215

NY SHWS **S120706246**
N/A

Relative:
Higher

Actual:
645 ft.

SHWS:
Name: SAGINAW - BUFFALO
Address: 320 SCAJAQUADA ST.
City,State,Zip: BUFFALO, NY 14215
Program: HW
Site Code: 58414
Classification: Site is properly closed - requires continued management.
Region: 9
Acres: 7.248
HW Code: 915152
Record Add: 11/18/1999
Record Upd: 07/24/2023
Updated By: AECAPRIO
Site Description: Location: The Saginaw-Buffalo site is an approximately 7.248-acre site, located in an urban area, at 320 Scajaquada Street in the City of Buffalo, Erie County. The site consists of the former Parking Lot #4 of the inactive manufacturing facility. Site Features: The site consists of a paved parking area. It is surrounded by industrial and residential properties. An electrical substation borders the site to the east. Current Zoning and Land Use: This site is zoned for industrial use. Past Use of the Site: Scajaquada Creek originally flowed through the southern portion of the site. The creek was rerouted through an underground concrete conduit, below what is now Scajaquada Street, in the mid 1920s. The former creek bed and adjacent low-lying areas were subsequently used for the disposal of ash by the City of Buffalo. A concrete plant operated on portions of the site from 1947 to 1966. General Motors (GM) purchased several parcels in the mid 1960s and constructed Parking Lot #4. The site was sold to American Axle Manufacturing in 1994, along with the main facility west of the railroad right-of-way. In November 1994, American Axle Manufacturing began construction of a parts coating facility on the northern third of Parking Lot #4. Operations at the facility ceased in December 2007. The property was sold to East Delavan Property, LLC in October 2008. During a spill cleanup of industrial oil in 1989 excavated soil was found to contain polychlorinated biphenyls (PCBs). Site Geology and Hydrogeology: The bedding material underneath the asphalt pavement is approximately one foot deep. Below the bedding material is a layer of ash/slag type black or brown fill intermixed with other materials which varies in thickness from 2 to 7 feet across the site. Below this fill is a thin layer of black organic silt up to one foot in thickness. The thickness of the silty clay layer below the black organic silt ranges from 10 to 12 feet. This is underlain by Onondaga limestone bedrock which is approximately 17 to 19 feet below ground surface (fbgs). The groundwater is found at a depth of 3 to 4 fbgs and is believed to be due to perched water conditions. The general direction of groundwater flow in the overburden appears to be to the south towards the Scajaquada Creek Drain. Based upon the regional hydrogeology, it is assumed that groundwater in the bedrock flows towards the

SAGINAW - BUFFALO (Continued) **S120706246**

	west-northwest.
Env Problem:	Remediation of the site is complete. Prior to remediation, the primary contaminants of concern were polychlorinated biphenyls (PCBs) and lead in soil, groundwater and sewer sediments. Remedial actions have successfully achieved soil cleanup objectives for industrial use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	There is little potential for exposure to contaminated soils because access to the site is restricted and the contaminated soils are covered by a paved parking lot. The existing deed restriction prevents use of the site property for purposes other than industrial uses, thereby preventing the use of groundwater for drinking. The area is served by public water so exposures via drinking water are not expected. The remedy which included the removal of contaminated soils, maintenance of existing pavement, and deed restrictions will reduce the potential for exposure to site-related contaminants.
Dump:	False
Structure:	False
Lagoon:	True
Landfill:	False
Pond:	False
Disp Start:	1956
Disp Term:	present
Lat/Long:	42:55:17:0 / 78:49:05:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	1999-11-18 12:00:00
Updated By:	INITIAL
Own Op:	3
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	General Motors Corporation
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	NY
Owner Country:	United States of America
Own Op:	1
Sub Type:	E
Owner Name:	Gary Yuzbashev
Owner Company:	300-320 SCAJ LLC
Owner Address:	6858 Meghan Rose Way
Owner Addr2:	Not reported
Owner City,St,Zip:	Clarence, NY 14031
Owner Country:	United States of America
HW Code:	915152
Waste Type:	WASTE CONTAINING LEACHABLE LEAD (D008 WASTE)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
HW Code:	915152
Waste Type:	POLYCHLORINATED BIPHENYLS (PCB)
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	915196
Cross Ref Type Code:	02
Cross Ref Type:	HW Site ID
Record Added Date:	2015-10-09 15:02:00
Record Updated:	2015-10-09 15:02:00

SAGINAW - BUFFALO (Continued) **S120706246**

Updated By: EWMELNYK
Crossref ID: NYD002127165
Cross Ref Type Code: 05
Cross Ref Type: EPA Site ID
Record Added Date: 1999-11-18 12:00:00
Record Updated: 2001-05-10 16:31:00
Updated By: REGTRANS

112
SW
1/2-1
0.982 mi.
5186 ft.

Relative:
Higher

Actual:
640 ft.

BUFFALO CITY OF - DIARSENOL KINGSLEY PK
60-86 KINGSLEY ST
BUFFALO, NY 14208

SEMS-ARCHIVE **1000369446**
NY SHWS **NYD981187040**
NY ENG CONTROLS
NY INST CONTROL
RCRA NonGen / NLR
NY MANIFEST

SEMS Archive:
Site ID: 0202327
EPA ID: NYD981187040
Name: DIARSENOL COMPANY
Address: 84 KINGSLEY STREET
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14208
Cong District: 33
FIPS Code: 36029
FF: N
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:
Region: 02
Site ID: 0202327
EPA ID: NYD981187040
Site Name: DIARSENOL COMPANY
NPL: N
FF: N
OU: 00
Action Code: VS
Action Name: ARCH SITE
SEQ: 1
Start Date: Not reported
Finish Date: 1997-01-31 05:00:00
Qual: Not reported
Current Action Lead: EPA Perf In-Hse

Region: 02
Site ID: 0202327
EPA ID: NYD981187040
Site Name: DIARSENOL COMPANY
NPL: N
FF: N
OU: 00
Action Code: SI
Action Name: SI
SEQ: 1
Start Date: 1987-02-19 05:00:00
Finish Date: 1987-02-23 05:00:00
Qual: N
Current Action Lead: EPA Perf

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Region:	02
Site ID:	0202327
EPA ID:	NYD981187040
Site Name:	DIARSENOL COMPANY
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	Not reported
Finish Date:	1986-03-26 05:00:00
Qual:	L
Current Action Lead:	EPA Perf

Region:	02
Site ID:	0202327
EPA ID:	NYD981187040
Site Name:	DIARSENOL COMPANY
NPL:	N
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1986-03-26 05:00:00
Finish Date:	1986-03-26 05:00:00
Qual:	Not reported
Current Action Lead:	St Perf

Region:	02
Site ID:	0202327
EPA ID:	NYD981187040
Site Name:	DIARSENOL COMPANY
NPL:	N
FF:	N
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	2
Start Date:	1990-10-01 04:00:00
Finish Date:	1991-02-13 05:00:00
Qual:	N
Current Action Lead:	St Perf

SHWS:

Name:	DIARSENOL CO., KINGSLEY PARK
Address:	KINGSLEY STREET
City,State,Zip:	BUFFALO, NY 14208
Program:	HW
Site Code:	56621
Classification:	Site is properly closed - requires continued management.
Region:	9
Acres:	2.216
HW Code:	915124
Record Add:	11/18/1999

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Record Upd:	02/10/2023
Updated By:	AECAPRIO
Site Description:	Location: The Diarsenol Co., Kingsley Park site is an approximately 2.216-acre site located in a residential neighborhood on Kingsley Street in the City of Buffalo, Erie County. Site Features: The site is a flat, grass covered lot with no buildings. Fencing surrounds much of the site. Current Zoning and Land Use: The site is currently a park owned by the City of Buffalo. Past Use of the Site: The Diarsenol Company occupied the property on Kingsley Street adjacent to the site starting in about 1900. Diarsenol manufactured medications containing arsenic at their facility from the early 1900s until the 1940s. They reportedly used this site for disposal of waste materials from their plant. The site was occupied by various owners from the 1940s until 1967, when it was acquired by the City of Buffalo. The site has been used as a public park and playground since 1972. Site Geology and Hydrology: The Site is currently covered with topsoil overlying clean fill and native clay. Minimal shallow-goundwater contamination is still present in an area proximal to the groundwater collection system.
Env Problem:	Remediation at the Site is complete. Prior to remediation, the primary contaminant of concern was arsenic in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for restricted-residential use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Remedial activities to address soil contamination conducted at the site and at some nearby off-site properties have effectively reduced the potential for exposure to site-related contaminants. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination.
Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	unknown
Disp Term:	1951
Lat/Long:	42:54:32:0 / 78:51:04:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	1999-11-18 12:00:00
Updated By:	INITIAL
Own Op:	3
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	DIARSENOL COMPANY
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	ZZ
Owner Country:	United States of America
Own Op:	1
Sub Type:	C01
Owner Name:	Andrew Rabb
Owner Company:	City of Buffalo Department of Parks and Recreation
Owner Address:	65 Niagara Square
Owner Addr2:	Room 505
Owner City,St,Zip:	BUFFALO, NY 14202
Owner Country:	United States of America

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Own Op:	4
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Diarsenol Company
Owner Address:	84 Kingsley Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14208
Owner Country:	United States of America
HW Code:	915124
Waste Type:	ARSENIC
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYD981187040
Cross Ref Type Code:	05
Cross Ref Type:	EPA Site ID
Record Added Date:	1999-11-18 12:00:00
Record Updated:	2001-05-10 16:31:00
Updated By:	REGTRANS

ENG CONTROLS:

Name:	DIARSENOL CO., KINGSLEY PARK
Address:	KINGSLEY STREET
City,State,Zip:	BUFFALO, NY 14208
Site Code:	56621
HW Code:	915124
Control Code:	17
Control Type:	ENG
Date Record Added:	07/14/2004
Date Rec Updated:	02/04/2020
Updated By:	MEKUCZKA
Site Description:	Location: The Diarsenol Co., Kingsley Park site is an approximately 2.216-acre site located in a residential neighborhood on Kingsley Street in the City of Buffalo, Erie County. Site Features: The site is a flat, grass covered lot with no buildings. Fencing surrounds much of the site. Current Zoning and Land Use: The site is currently a park owned by the City of Buffalo. Past Use of the Site: The Diarsenol Company occupied the property on Kingsley Street adjacent to the site starting in about 1900. Diarsenol manufactured medications containing arsenic at their facility from the early 1900s until the 1940s. They reportedly used this site for disposal of waste materials from their plant. The site was occupied by various owners from the 1940s until 1967, when it was acquired by the City of Buffalo. The site has been used as a public park and playground since 1972. Site Geology and Hydrology: The Site is currently covered with topsoil overlying clean fill and native clay. Minimal shallow-goundwater contamination is still present in an area proximal to the groundwater collection system.
Env Problem:	Remediation at the Site is complete. Prior to remediation, the primary contaminant of concern was arsenic in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for restricted-residential use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Remedial activities to address soil contamination conducted at the site and at some nearby off-site properties have effectively reduced the potential for exposure to site-related contaminants. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination.

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	unknown
Disp Term:	1951
Lat/Long:	42:54:32:0 / 78:51:04:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	1999-11-18 12:00:00
Updated By:	INITIAL
Own Op:	3
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	DIARSENOL COMPANY
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	ZZ
Owner Country:	United States of America
Own Op:	1
Sub Type:	C01
Owner Name:	Andrew Rabb
Owner Company:	City of Buffalo Department of Parks and Recreation
Owner Address:	65 Niagara Square
Owner Addr2:	Room 505
Owner City,St,Zip:	BUFFALO, NY 14202
Owner Country:	United States of America
Own Op:	4
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	Diarsenol Company
Owner Address:	84 Kingsley Street
Owner Addr2:	Not reported
Owner City,St,Zip:	Buffalo, NY 14208
Owner Country:	United States of America
HW Code:	915124
Waste Type:	ARSENIC
Waste Quantity:	UNKNOWN
Waste Code:	Not reported
Crossref ID:	NYD981187040
Cross Ref Type Code:	05
Cross Ref Type:	EPA Site ID
Record Added Date:	1999-11-18 12:00:00
Record Updated:	2001-05-10 16:31:00
Updated By:	REGTRANS

INST CONTROL:

Name:	DIARSENOL CO., KINGSLEY PARK
Address:	KINGSLEY STREET
City,State,Zip:	BUFFALO, NY 14208
Site Code:	56621
Control Name:	O&M Plan
HW Code:	915124
Control Code:	33
Control Type:	INST
Dt record added:	07/14/2004

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Dt rec updated:	02/04/2020
Updated By:	MEKUCZKA
Site Code:	56621
Site Description:	Location: The Diarsenol Co., Kingsley Park site is an approximately 2.216-acre site located in a residential neighborhood on Kingsley Street in the City of Buffalo, Erie County. Site Features: The site is a flat, grass covered lot with no buildings. Fencing surrounds much of the site. Current Zoning and Land Use: The site is currently a park owned by the City of Buffalo. Past Use of the Site: The Diarsenol Company occupied the property on Kingsley Street adjacent to the site starting in about 1900. Diarsenol manufactured medications containing arsenic at their facility from the early 1900s until the 1940s. They reportedly used this site for disposal of waste materials from their plant. The site was occupied by various owners from the 1940s until 1967, when it was acquired by the City of Buffalo. The site has been used as a public park and playground since 1972. Site Geology and Hydrology: The Site is currently covered with topsoil overlying clean fill and native clay. Minimal shallow-goundwater contamination is still present in an area proximal to the groundwater collection system.
Env Problem:	Remediation at the Site is complete. Prior to remediation, the primary contaminant of concern was arsenic in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for restricted-residential use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem:	Remedial activities to address soil contamination conducted at the site and at some nearby off-site properties have effectively reduced the potential for exposure to site-related contaminants. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination.
Dump:	True
Structure:	False
Lagoon:	False
Landfill:	False
Pond:	False
Disp Start:	unknown
Disp Term:	1951
Lat/Long:	42:54:32:0 / 78:51:04:0
Dell:	False
Record Add:	1999-11-18 12:00:00
Record Upd:	1999-11-18 12:00:00
Updated By:	INITIAL
Own Op:	3
Sub Type:	NNN
Owner Name:	Not reported
Owner Company:	DIARSENOL COMPANY
Owner Address:	Not reported
Owner Addr2:	Not reported
Owner City,St,Zip:	ZZ
Owner Country:	United States of America
Own Op:	1
Sub Type:	C01
Owner Name:	Andrew Rabb
Owner Company:	City of Buffalo Department of Parks and Recreation
Owner Address:	65 Niagara Square
Owner Addr2:	Room 505
Owner City,St,Zip:	BUFFALO, NY 14202

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: Not reported
Owner Company: Diarsenol Company
Owner Address: 84 Kingsley Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14208
Owner Country: United States of America
HW Code: 915124
Waste Type: ARSENIC
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYD981187040
Cross Ref Type Code: 05
Cross Ref Type: EPA Site ID
Record Added Date: 1999-11-18 12:00:00
Record Updated: 2001-05-10 16:31:00
Updated By: REGTRANS

Name: DIARSENOL CO., KINGSLEY PARK
Address: KINGSLEY STREET
City,State,Zip: BUFFALO, NY 14208
Site Code: 56621
Control Name: Deed Restriction
HW Code: 915124
Control Code: A
Control Type: INST
Dt record added: 07/14/2004
Dt rec updated: 02/04/2020
Updated By: MEKUCZKA
Site Code: 56621
Site Description: Location: The Diarsenol Co., Kingsley Park site is an approximately 2.216-acre site located in a residential neighborhood on Kingsley Street in the City of Buffalo, Erie County. Site Features: The site is a flat, grass covered lot with no buildings. Fencing surrounds much of the site. Current Zoning and Land Use: The site is currently a park owned by the City of Buffalo. Past Use of the Site: The Diarsenol Company occupied the property on Kingsley Street adjacent to the site starting in about 1900. Diarsenol manufactured medications containing arsenic at their facility from the early 1900s until the 1940s. They reportedly used this site for disposal of waste materials from their plant. The site was occupied by various owners from the 1940s until 1967, when it was acquired by the City of Buffalo. The site has been used as a public park and playground since 1972. Site Geology and Hydrology: The Site is currently covered with topsoil overlying clean fill and native clay. Minimal shallow-goundwater contamination is still present in an area proximal to the groundwater collection system.
Env Problem: Remediation at the Site is complete. Prior to remediation, the primary contaminant of concern was arsenic in soil and groundwater. Remedial actions have successfully achieved soil cleanup objectives for restricted-residential use. Residual contamination in soil and groundwater is being managed under a Site Management Plan.
Health Problem: Remedial activities to address soil contamination conducted at the site and at some nearby off-site properties have effectively reduced the potential for exposure to site-related contaminants. People are

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination.

Dump: True
Structure: False
Lagoon: False
Landfill: False
Pond: False
Disp Start: unknown
Disp Term: 1951
Lat/Long: 42:54:32:0 / 78:51:04:0
Dell: False
Record Add: 1999-11-18 12:00:00
Record Upd: 1999-11-18 12:00:00
Updated By: INITIAL
Own Op: 3
Sub Type: NNN
Owner Name: Not reported
Owner Company: DIARSENOL COMPANY
Owner Address: Not reported
Owner Addr2: Not reported
Owner City,St,Zip: ZZ
Owner Country: United States of America
Own Op: 1
Sub Type: C01
Owner Name: Andrew Rabb
Owner Company: City of Buffalo Department of Parks and Recreation
Owner Address: 65 Niagara Square
Owner Addr2: Room 505
Owner City,St,Zip: BUFFALO, NY 14202
Owner Country: United States of America
Own Op: 4
Sub Type: NNN
Owner Name: Not reported
Owner Company: Diarsenol Company
Owner Address: 84 Kingsley Street
Owner Addr2: Not reported
Owner City,St,Zip: Buffalo, NY 14208
Owner Country: United States of America
HW Code: 915124
Waste Type: ARSENIC
Waste Quantity: UNKNOWN
Waste Code: Not reported
Crossref ID: NYD981187040
Cross Ref Type Code: 05
Cross Ref Type: EPA Site ID
Record Added Date: 1999-11-18 12:00:00
Record Updated: 2001-05-10 16:31:00
Updated By: REGTRANS

RCRA Listings:

Date Form Received by Agency:	20070101
Handler Name:	Buffalo City Of - Diarsenol Kingsley Pk
Handler Address:	KINGSLEY ST
Handler City,State,Zip:	BUFFALO, NY 14208-2142
EPA ID:	NYD981187040
Contact Name:	Not reported
Contact Address:	WOLF RD - RM 423

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Contact City,State,Zip:	ALBANY, NY 12233
Contact Telephone:	Not reported
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	02
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ny
State District:	NYSDEC R9
Mailing Address:	WOLF RD - RM 423
Mailing City,State,Zip:	ALBANY, NY 12233
Owner Name:	City Of Buffalo
Owner Type:	Municipal
Operator Name:	City Of Buffalo
Operator Type:	Municipal
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Hazardous Waste Summary:
Waste Code: D000
Waste Description: Not Defined

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: CITY OF BUFFALO
Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CITY OF BUFFALO
Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CITY OF BUFFALO
Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, WY 99999
Owner/Operator Telephone: 212-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19990708
Handler Name: BUFFALO CITY OF - DIARSENOL KINGSLEY PK
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: BUFFALO CITY OF - DIARSENOL KINGSLEY PK
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070101
Handler Name: BUFFALO CITY OF - DIARSENOL KINGSLEY PK
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19910422
Handler Name: BUFFALO CITY OF - DIARSENOL KINGSLEY PK
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19920211
Handler Name: NEW YORK STATE DEPT ENV C DIARSENOL
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ny
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

List of NAICS Codes and Descriptions:
NAICS Code: 23593
NAICS Description: EXCAVATION CONTRACTORS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

Manifest Facility Information:
EPA ID: NYD981187040
Country: USA
Name: NYSDEC
Address: 60-86 KINGSLEY ST
Address 2: Not reported
City,State,Zip: BUFFALO, NY 14208-2142
Zip 4: Not reported
Location Address 1: 60-86 KINGSLEY ST
Location Address 2: Not reported
Location City,State,Zip: BUFFALO, NY 14208
Location Zip 4: Not reported
Facility Status: Not reported
Total Tanks: Not reported
Code: BP

Mailing:
Mailing Name: NYSDEC
Mailing Contact: NYSDEC
Mailing Address 1: 50 WOLF RD RM 208
Mailing Address 2: Not reported
Mailing City,State,Zip: ALBANY, NY 12233
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 5184579280

Manifest Data:
Document ID: MIA2530223
Manifest Status: Not reported
Trans1 State ID: Not reported
Year: 1991
Trans2 State ID: Not reported
Generator Ship Date: 10/23/1991
Trans1 Recv Date: 10/23/1991
Trans2 Recv Date: Not reported
TSD Site Recv Date: 10/24/1991
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: NYD981187040
Trans1 EPA ID: OHD986974780
Trans2 EPA ID: Not reported
TSDF ID 1: MID000724831
TSDF ID 2: Not reported
Manifest Tracking Number: Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00021
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530224
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/25/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Waste Code 6:	Not reported
Quantity:	00022
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	MIA2530225
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00022
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00
Document ID:	MIA2530226
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/22/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00020
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530227
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00022
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530228
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00022
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Document ID:	MIA2530229
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00023
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530230
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00023
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530231
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/25/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00023
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530233
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/22/1991
Trans1 Recv Date:	10/23/1991
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD986974780
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00021
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Document ID:	MIA2530234
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Year:	1991
Trans2 State ID:	Not reported
Generator Ship Date:	10/23/1991
Trans1 Recv Date:	10/23/1991

BUFFALO CITY OF - DIARSENOL KINGSLEY PK (Continued) **1000369446**

Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/24/1991
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	NYD981187040
Trans1 EPA ID:	OHD009865825
Trans2 EPA ID:	Not reported
TSDF ID 1:	MID000724831
TSDF ID 2:	Not reported
Manifest Tracking Number:	Not reported
Import Indicator:	Not reported
Export Indicator:	Not reported
Discr Quantity Indicator:	Not reported
Discr Type Indicator:	Not reported
Discr Residue Indicator:	Not reported
Discr Partial Reject Indicator:	Not reported
Discr Full Reject Indicator:	Not reported
Manifest Ref Number:	Not reported
Alt Facility RCRA ID:	Not reported
Alt Facility Sign Date:	Not reported
MGMT Method Type Code:	Not reported
Waste Code 1:	ARSENIC
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Quantity:	00024
Units:	Tons (2000 Pounds)
Number of Containers:	001
Container Type:	Dump truck
Handling Method:	Landfill
Specific Gravity:	01.00

Click this hyperlink while viewing on your computer to access
59 additional NY MANIFEST: record(s) in the EDR Site Report.

Count: 4 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BUFFALO	S123658130	664 - 690 NORTHLAND AVENUE	664, 688 AND 690 NORTHLAND AVE	14211	NY SHWS
BUFFALO	S113916924	OTIS ELEVATOR	GRIDER STREET		NY SHWS
CHEEKTOWAGA	S113916922	NYS THRUWAY EXIT 52	EXIT 52 (WALDEN AVE) INTERCHAN		NY SHWS
CHEEKTOWAGA	S105586500	CMS ASSOCIATES, INC.	210 FRENCH ROAD		NY VAPOR REOPENED

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/20/2023
Date Data Arrived at EDR: 12/20/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/20/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/07/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 64

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 82

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: Inactive Hazardous Waste Disposal Sites in New York State

Referred to as the State Superfund Program, the Inactive Hazardous Waste Disposal Site Remedial Program is the cleanup program for inactive hazardous waste sites and now includes hazardous substance sites

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9622
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Annually

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Facility Register

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/27/2023
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/19/2023
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8678
Last EDR Contact: 12/19/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

LTANKS: Spills Information Database
Leaking Storage Tank Incident Reports. These records contain an inventory of reported leaking storage tank incidents reported from 4/1/86 through the most recent update. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills.

Date of Government Version: 01/24/2024
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 01/25/2024
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 01/24/2024
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

HIST LTANKS: Listing of Leaking Storage Tanks

A listing of leaking underground and aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills. In 2002, the Department of Environmental Conservation stopped providing updates to its original Spills Information Database. This database includes fields that are no longer available from the NYDEC as of January 1, 2002. Current information may be found in the NY LTANKS database. Department of Environmental Conservation.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 07/08/2005
Date Made Active in Reports: 07/14/2005
Number of Days to Update: 6

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 07/07/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 05/30/2023
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

UST: Petroleum Bulk Storage (PBS) Database

Facilities that have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons.

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 09/07/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: No Update Planned

CBS UST: Chemical Bulk Storage Database

Facilities that store regulated hazardous substances in underground tanks of any size

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 10/24/2005
Next Scheduled EDR Contact: 01/23/2006
Data Release Frequency: No Update Planned

MOSF UST: Major Oil Storage Facilities Database

Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 07/25/2005
Next Scheduled EDR Contact: 10/24/2005
Data Release Frequency: No Update Planned

MOSF: Major Oil Storage Facility Site Listing

These facilities may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 09/07/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CBS: Chemical Bulk Storage Site Listing

These facilities store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 09/07/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

AST: Petroleum Bulk Storage

Registered Aboveground Storage Tanks.

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 09/07/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: No Update Planned

CBS AST: Chemical Bulk Storage Database

Facilities that store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 07/25/2005
Next Scheduled EDR Contact: 10/24/2005
Data Release Frequency: No Update Planned

MOSF AST: Major Oil Storage Facilities Database

Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 07/25/2005
Next Scheduled EDR Contact: 10/24/2005
Data Release Frequency: No Update Planned

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

TANKS: Storage Tank Faciliy Listing

This database contains records of facilities that are or have been regulated under Bulk Storage Program. Tank information for these facilities may not be releasable by the state agency.

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 09/07/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9543
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

ENV RES DECL: Environmental Restrictive Declarations

The Environmental Restrictive Declarations (ERD) listed were recorded in connection with a zoning action against the noted Tax Blocks and Tax Lots, or portion thereof, and are available in the property records on file at the Office of the City Register for Bronx, Kings, New York and Queens counties or at the Richmond County Clerk's office. They contain environmental requirements with respect to hazardous materials, air quality and/or noise in accordance with Section 11-15 of this Resolution.

Date of Government Version: 03/21/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 84

Source: New York City Department of City Planning
Telephone: 212-720-3300
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Varies

RES DECL: Restrictive Declarations Listing

A restrictive declaration is a covenant running with the land which binds the present and future owners of the property. As a condition of certain special permits, the City Planning Commission may require an applicant to sign and record a restrictive declaration that places specified conditions on the future use and development of the property. Certain restrictive declarations are indicated by a D on zoning maps.

Date of Government Version: 03/21/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 08/31/2023
Number of Days to Update: 78

Source: NYC Department of City Planning
Telephone: 212-720-3401
Last EDR Contact: 12/11/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Varies

ENG CONTROLS: Registry of Engineering Controls

Environmental Remediation sites that have engineering controls in place.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9553
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

INST CONTROL: Registry of Institutional Controls

Environmental Remediation sites that have institutional controls in place.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9553
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Agreements

New York established its Voluntary Cleanup Program (VCP) to address the environmental, legal and financial barriers that often hinder the redevelopment and reuse of contaminated properties. The Voluntary Cleanup Program was developed to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfield" sites.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9711
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Semi-Annually

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/12/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Varies

VCP NYC: Voluntary Cleanup Program Listing NYC

New York City voluntary cleanup program sites.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/07/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 82

Source: New York City Office of Environmental Protection
Telephone: 212-788-8841
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields Site List

A Brownfield is any real property where redevelopment or re-use may be complicated by the presence or potential presence of a hazardous waste, petroleum, pollutant, or contaminant.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9764
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Semi-Annually

ERP: Environmental Restoration Program Listing

In an effort to spur the cleanup and redevelopment of brownfields, New Yorkers approved a $200 million Environmental Restoration or Brownfields Fund as part of the $1.75 billion Clean Water/Clean Air Bond Act of 1996 (1996 Bond Act). Enhancements to the program were enacted on October 7, 2003. Under the Environmental Restoration Program, the State provides grants to municipalities to reimburse up to 90 percent of on-site eligible costs and 100% of off-site eligible costs for site investigation and remediation activities. Once remediated, the property may then be reused for commercial, industrial, residential or public use.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9622
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Registered Recycling Facility List

A listing of recycling facilities.

Date of Government Version: 09/27/2023
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/19/2023
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8678
Last EDR Contact: 12/19/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

SWTIRE: Registered Waste Tire Storage & Facility List

A listing of facilities registered to accept waste tires.

Date of Government Version: 02/27/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 63

Source: Department of Environmental Conservation
Telephone: 518-402-8694
Last EDR Contact: 11/28/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/26/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: No Update Planned

DEL SHWS: Delisted Registry Sites

A database listing of sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9622
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

HIST UST: Historical Petroleum Bulk Storage Database

These facilities have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons. This database contains detailed information per site. It is no longer updated due to the sensitive nature of the information involved. See UST for more current data.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 06/02/2006
Date Made Active in Reports: 07/20/2006
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

HIST AST: Historical Petroleum Bulk Storage Database

These facilities have petroleum storage capabilities in excess of 1,100 gallons and less than 400,000 gallons. This database contains detailed information per site. No longer updated due to the sensitive nature of the information involved. See AST for more current data.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 06/02/2006
Date Made Active in Reports: 07/20/2006
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Spill Liens Information

Lien information from the Oil Spill Fund.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/29/2024
Number of Days to Update: 89

Source: Office of the State Comptroller
Telephone: 518-474-9034
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 11/14/2023
Date Data Arrived at EDR: 12/22/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 33

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/04/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/18/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 11/14/2023
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

SPILLS: Spills Information Database

Data collected on spills reported to NYSDEC as required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from PBS regs), or 6 NYCRR Section 595.2 (from CBS regs). It includes spills active as of April 1, 1986, as well as spills occurring since this date.

Date of Government Version: 01/24/2024
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 01/25/2024
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 01/24/2024
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

HIST SPILLS: SPILLS Database

This database contains records of chemical and petroleum spill incidents. Under State law, petroleum and hazardous chemical spills that can impact the waters of the state must be reported by the spiller (and, in some cases, by anyone who has knowledge of the spills). In 2002, the Department of Environmental Conservation stopped providing updates to its original Spills Information Database. This database includes fields that are no longer available from the NYDEC as of January 1, 2002. Current information may be found in the NY SPILLS database. Department of Environmental Conservation.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 07/08/2005
Date Made Active in Reports: 07/14/2005
Number of Days to Update: 6

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 07/07/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/14/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/12/2013
Number of Days to Update: 40

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 11/02/2010
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/07/2013
Number of Days to Update: 63

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 56

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/10/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/10/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/18/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 81

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/19/2023
Date Data Arrived at EDR: 10/20/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 88

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 09/01/2023
Date Data Arrived at EDR: 09/27/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 85
Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/12/2024
Next Scheduled EDR Contact: 04/19/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35
Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/04/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023
Date Data Arrived at EDR: 09/01/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 19
Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 04/14/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 87
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/27/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/27/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/19/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/11/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 5

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/09/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/26/2024
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2023
Date Data Arrived at EDR: 08/22/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 77

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/20/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/20/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/20/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 12

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 11/28/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/20/2023
Number of Days to Update: 12

Source: EPA
Telephone: (212) 637-3000
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/15/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 65

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/10/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/27/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 12/27/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: No Update Planned

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

PFAS 3: PFAS Environmental Site Remediation List

Per- and Polyfluoroalkyl Substances (PFAS) are a group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. Fluoropolymer coatings are blends of resins and lubricants used in products such as water-repellent clothing, furniture, adhesives, paint and varnish, food packaging, heat-resistant non-stick cooking surfaces and insulation of electrical wires. Chemicals in this group include perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS).

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-9759
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing

DEC surveyed select businesses, fire departments, fire training centers, bulk storage facilities, airports, and Department of Defense (DoD) facilities. The responses to the survey have helped to determine if these entities used or stored materials containing PFOA/PFOS including AFFF and dispersants used in Teflon coating operations. The results of this survey will be updated periodically as additional responses are received..

Date of Government Version: 01/16/2019
Date Data Arrived at EDR: 05/08/2019
Date Made Active in Reports: 06/24/2019
Number of Days to Update: 47

Source: Department of Environmental Conservation
Telephone: 518-402-9020
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

PFAS 2: New York State Inactive Landfill Initiative

A list of landfills that were investigated and the analytical results for PFOA and PFOS for those landfills. These data represent the landfills from the ILI database that were investigated.

Date of Government Version: 12/12/2022
Date Data Arrived at EDR: 08/10/2023
Date Made Active in Reports: 10/25/2023
Number of Days to Update: 76

Source: Department of Environmental Conservation
Telephone: 518-402-9662
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

AIRS: Air Emissions Data

Point source emissions inventory data.

Date of Government Version: 10/11/2023
Date Data Arrived at EDR: 10/26/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 89

Source: Department of Environmental Conservation
Telephone: 518-402-8452
Last EDR Contact: 01/12/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Annually

COAL ASH: Coal Ash Disposal Site Listing

A listing of coal ash disposal site locations.

Date of Government Version: 09/08/2023
Date Data Arrived at EDR: 09/27/2023
Date Made Active in Reports: 12/18/2023
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8660
Last EDR Contact: 12/19/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

DRYCLEANERS: Registered Drycleaners

A listing of all registered drycleaning facilities.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 12/12/2023
Date Made Active in Reports: 12/19/2023
Number of Days to Update: 7

Source: Department of Environmental Conservation
Telephone: 518-402-8403
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Annually

E DESIGNATION: E DESIGNATION SITE LISTING

The (E (Environmental)) designation would ensure that sampling and remediation take place on the subject properties, and would avoid any significant impacts related to hazardous materials at these locations. The (E) designations would require that the fee owner of the sites conduct a testing and sampling protocol, and remediation where appropriate, to the satisfaction of the NYCDEP before the issuance of a building permit by the Department of Buildings pursuant to the provisions of Section 11-15 of the Zoning Resolution (Environmental Requirements). The (E) designations also include a mandatory construction-related health and safety plan which must be approved by NYCDEP.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/07/2023
Number of Days to Update: 85

Source: New York City Department of City Planning
Telephone: 718-595-6658
Last EDR Contact: 12/11/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Semi-Annually

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information.

Date of Government Version: 10/01/2023
Date Data Arrived at EDR: 10/05/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 77

Source: Department of Environmental Conservation
Telephone: 518-402-8660
Last EDR Contact: 12/19/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 07/31/2021
Date Data Arrived at EDR: 01/05/2023
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 78

Source: Department of Environmental Conservation
Telephone: 518-402-8712
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

HSWDS: Hazardous Substance Waste Disposal Site Inventory

The list includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites and non-Registry sites that U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared. Hazardous Substance Waste Disposal Sites are eligible to be Superfund sites now that the New York State Superfund has been refinanced and changed. This means that the study inventory has served its purpose and will no longer be maintained as a separate entity. The last version of the study inventory is frozen in time. The sites on the study will not automatically be made Superfund sites, rather each site will be further evaluated for listing on the Registry. So overtime they will be added to the registry or not.

Date of Government Version: 01/01/2003
Date Data Arrived at EDR: 10/20/2006
Date Made Active in Reports: 11/30/2006
Number of Days to Update: 41

Source: Department of Environmental Conservation
Telephone: 518-402-9564
Last EDR Contact: 05/26/2009
Next Scheduled EDR Contact: 08/24/2009
Data Release Frequency: No Update Planned

NYC LEAD: Lead-based Paint Testing Results

The results of the inspections for all classrooms serving students under six in applicable buildings. Identifies all classrooms, whether there was observation of peeling paint, and if there was, standard response protocol was followed.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 11/02/2023
Date Made Active in Reports: 01/29/2024
Number of Days to Update: 88

Source: New York City Department of Education
Telephone: 212-374-5141
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

NYC LEAD 2: Recent Lead Paint Violations

Pursuant to New York City?s Housing Maintenance Code, the Department of Housing Preservation and Development (HPD) issues violations against conditions in rental dwelling units that have been verified to violate the New York City Housing Maintenance Code (HMC) or the New York State Multiple Dwelling Law (MDL). Violations are issued when an inspection verifies that a violation of the HMC or MDL exists. It is closed when the violation is corrected, as observed/verified by HPD or as certified by the landlord.

Date of Government Version: 10/31/2023
Date Data Arrived at EDR: 11/02/2023
Date Made Active in Reports: 01/29/2024
Number of Days to Update: 88

Source: New York City Department of Housing Preservation & Development
Telephone: 212-863-8200
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/26/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

SPDES: State Pollutant Discharge Elimination System

New York State has a state program which has been approved by the United States Environmental Protection Agency for the control of wastewater and stormwater discharges in accordance with the Clean Water Act. Under New York State law the program is known as the State Pollutant Discharge Elimination System (SPDES) and is broader in scope than that required by the Clean Water Act in that it controls point source discharges to groundwaters as well as surface waters.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 08/10/2023
Date Made Active in Reports: 10/25/2023
Number of Days to Update: 76

Source: Department of Environmental Conservation
Telephone: 518-402-8233
Last EDR Contact: 01/12/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: No Update Planned

VAPOR REOPENED: Vapor Intrusion Legacy Site List

New York is currently re-evaluating previous assumptions and decisions regarding the potential for soil vapor intrusion exposures at sites. As a result, all past, current, and future contaminated sites will be evaluated to determine whether these sites have the potential for exposures related to soil vapor intrusion.

Date of Government Version: 01/01/2022
Date Data Arrived at EDR: 02/08/2022
Date Made Active in Reports: 05/06/2022
Number of Days to Update: 87

Source: Department of Environmenal Conservation
Telephone: 518-402-9814
Last EDR Contact: 11/09/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

UIC: Underground Injection Control Wells

A listing of enhanced oil recovery underground injection wells.

Date of Government Version: 08/27/2023
Date Data Arrived at EDR: 08/30/2023
Date Made Active in Reports: 11/16/2023
Number of Days to Update: 78

Source: Department of Environmental Conservation
Telephone: 518-402-8056
Last EDR Contact: 11/22/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

COOLING TOWERS: Registered Cooling Towers

This data includes the location of cooling towers registered with New York State. The data is self-reported by owners/property managers of cooling towers in service in New York State. In August 2015, the New York State Department of Health released emergency regulations requiring the owners of cooling towers to register them with New York State.

Date of Government Version: 10/03/2023
Date Data Arrived at EDR: 10/10/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 86

Source: Department of Health
Telephone: 518-402-7650
Last EDR Contact: 01/10/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

NYC LAND USE: New York City Land Use Information
Land use colors

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 06/13/2023
Date Made Active in Reports: 01/03/2024
Number of Days to Update: 204

Source: New York City Department of City Planning
Telephone: 212-720-3300
Last EDR Contact: 12/11/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Varies

UST FINDER: UST Finder Database
EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 11/09/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

NYC OER: OER Cleanup Sites Listing
Properties remediated under OER's oversight, both in the E-Designation program and the NYC Voluntary Cleanup Program. Includes sites completed and in progress.

Date of Government Version: 06/04/2023
Date Data Arrived at EDR: 06/06/2023
Date Made Active in Reports: 12/04/2023
Number of Days to Update: 181

Source: Office of Environmental Remediation
Telephone: 212-788-8841
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

ILI: New York State Inactive Landfill Initiative
A solid waste site priority list of mitigation and remedial activities to address sites causing, or substantially contributing to, impairments of drinking water quality. Inactive solid waste disposal sites, primarily landfills, and their potential impact on New York?s drinking water resources from site-related contaminants, with a focus on emerging contaminants.

Date of Government Version: 06/24/2022
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 78

Source: Department of Environmental Conservation
Telephone: 518-402-8671
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

MGP: Manufactured Gas Plants Listing
From the late 1800's to the mid 1900's, hundreds of manufactured gas plants across New York State supplied homes and industry with fuel for heating, cooking, and lighting. Today, the New York State DEC is overseeing the investigation and cleanup of contamination left behind from these plants.

Date of Government Version: 11/15/2021
Date Data Arrived at EDR: 11/19/2021
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 753

Source: Department of Environmental Conservation
Telephone: 518-402-9662
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 10/31/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List
The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in New York.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182
Source: Department of Environmental Conservation
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in New York.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/10/2014
Number of Days to Update: 193
Source: Department of Environmental Conservation
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

CORTLAND COUNTY:

AST - CORTLAND: Cortland County Storage Tank Listing
A listing of aboveground storage tank sites located in Cortland County.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/16/2019
Number of Days to Update: 57
Source: Cortland County Health Department
Telephone: 607-753-5035
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

UST - CORTLAND: Cortland County Storage Tank Listing
A listing of underground storage tank sites located in Cortland County.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/16/2019
Number of Days to Update: 57
Source: Cortland County Health Department
Telephone: 607-753-5035
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

NASSAU COUNTY:

AST - NASSAU: Registered Tank Database
A listing of aboveground storage tank sites located in Nassau County.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 02/15/2017
Number of Days to Update: 35
Source: Nassau County Health Department
Telephone: 516-571-3314
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: No Update Planned

AST NCFM: Storage Tank Database
A listing of aboveground storage tank sites located in Nassau County.

Date of Government Version: 02/15/2011
Date Data Arrived at EDR: 02/23/2011
Date Made Active in Reports: 03/29/2011
Number of Days to Update: 34
Source: Nassau County Office of the Fire Marshal
Telephone: 516-572-1000
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

TANKS NASSAU: Registered Tank Database in Nassau County
A listing of facilities in Nassau County with storage tanks.

Date of Government Version: 11/01/2023
Date Data Arrived at EDR: 11/07/2023
Date Made Active in Reports: 11/13/2023
Number of Days to Update: 6
Source: Nassau County Department of Health
Telephone: 516-227-9691
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: No Update Planned

UST - NASSAU: Registered Tank Database
A listing of underground storage tank sites located in Nassau County.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 02/15/2017
Number of Days to Update: 35
Source: Nassau County Health Department
Telephone: 516-571-3314
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: No Update Planned

UST NCFM: Storage Tank Database
A listing of underground storage tank sites located in Nassau County.

Date of Government Version: 02/15/2011
Date Data Arrived at EDR: 02/23/2011
Date Made Active in Reports: 03/29/2011
Number of Days to Update: 34
Source: Nassau County Office of the Fire Marshal
Telephone: 516-572-1000
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

ROCKLAND COUNTY:

AST - ROCKLAND: Petroleum Bulk Storage Database
A listing of aboveground storage tank sites located in Rockland County. Rockland County?s Petroleum Bulk Storage (PBS) program is no longer in service. All related operations/duties are now wholly overseen by the New York State Dept. of Environmental Conservation (NYSDEC).

Date of Government Version: 02/02/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 09/22/2017
Number of Days to Update: 189
Source: Rockland County Health Department
Telephone: 914-364-2605
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: No Update Planned

UST - ROCKLAND: Petroleum Bulk Storage Database
A listing of underground storage tank sites located in Rockland County. Rockland County?s Petroleum Bulk Storage (PBS) program is no longer in service. All related operations/duties are now wholly overseen by the New York State Dept. of Environmental Conservation (NYSDEC).

Date of Government Version: 02/02/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 09/22/2017
Number of Days to Update: 189
Source: Rockland County Health Department
Telephone: 914-364-2605
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: No Update Planned

SUFFOLK COUNTY:

AST - SUFFOLK: Storage Tank Database
A listing of aboveground storage tank sites located in Suffolk County.

Date of Government Version: 06/28/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 02/07/2019
Number of Days to Update: 63

Source: Suffolk County Department of Health Services
Telephone: 631-854-2521
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: No Update Planned

TANKS SUFFOLK: Storage Tank Database
This county is not included in the state?s database. These are facilities that have no tank information in the storage tank database.

Date of Government Version: 06/28/2018
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 31

Source: Department of Health Services
Telephone: 631-854-2516
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

UST - SUFFOLK: Storage Tank Database
A listing of underground storage tank sites located in Suffolk County.

Date of Government Version: 06/28/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 02/07/2019
Number of Days to Update: 63

Source: Suffolk County Department of Health Services
Telephone: 631-854-2521
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: No Update Planned

WESTCHESTER COUNTY:

AST - WESTCHESTER: Listing of Storage Tanks
A listing of aboveground storage tank sites located in Westchester County.

Date of Government Version: 07/03/2023
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/03/2023
Number of Days to Update: 77

Source: Westchester County Department of Health
Telephone: 914-813-5161
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Semi-Annually

UST - WESTCHESTER: Listing of Storage Tanks
A listing of underground storage tank sites located in Westchester County.

Date of Government Version: 07/03/2023
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/03/2023
Number of Days to Update: 77

Source: Westchester County Department of Health
Telephone: 914-813-5161
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Semi-Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 12/27/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/09/2022
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 10/28/2019
Date Data Arrived at EDR: 10/29/2019
Date Made Active in Reports: 01/09/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Providers
Source: Department of Health
Telephone: 212-676-2444

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Freshwater Wetlands
Source: Department of Environmental Conservation
Telephone: 518-402-8961

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

631 NORTHLAND AVENUE
631 NORTHLAND AVENUE
BUFFALO, NY 14211

TARGET PROPERTY COORDINATES

Latitude (North):	42.91832 - 42° 55' 5.95''
Longitude (West):	78.836317 - 78° 50' 10.74''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	676599.8
UTM Y (Meters):	4753801.0
Elevation:	640 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	14122104 BUFFALO NE, NY
Version Date:	2019

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

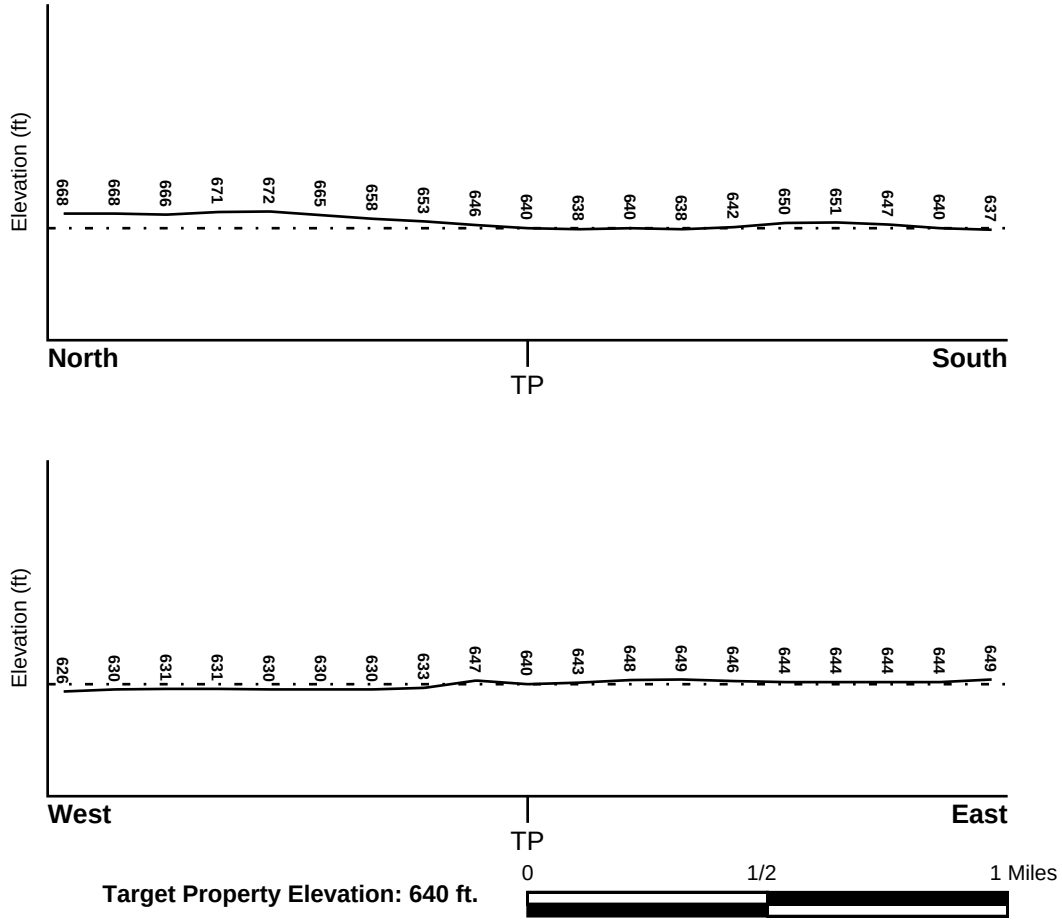
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
3602300005B	FEMA Q3 Flood data

Additional Panels in search area:	FEMA Source Type
3602300015B	FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
BUFFALO NE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

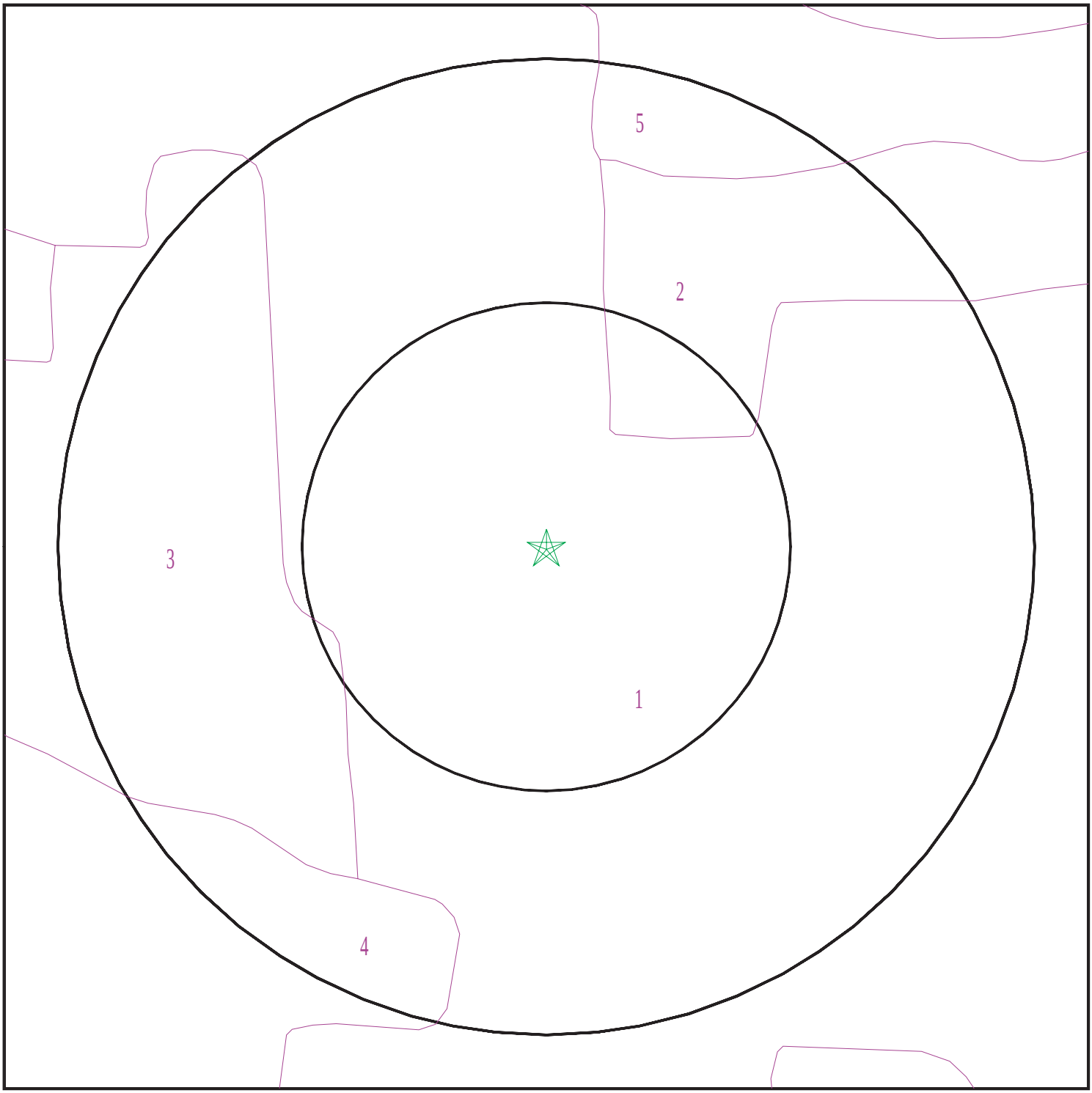
Era:	Paleozoic
System:	Devonian
Series:	Middle Devonian
Code:	D2 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7555240.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	631 Northland Avenue	CLIENT:	Ravi Engineering & Land Surveying, P.C.
ADDRESS:	631 Northland Avenue Buffalo NY 14211	CONTACT:	Lynn.zicari
LAT/LONG:	42.91832 / 78.836317	INQUIRY #:	7555240.2s
		DATE:	January 30, 2024 4:40 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Urban

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 77 inches

Depth to Watertable Min: > 66 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Udorthents

Soil Surface Texture:
Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Urban

Soil Surface Texture:
Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 54 inches

No Layer Information available.

Soil Map ID: 5

Soil Component Name: Urban

Soil Surface Texture:
Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 38 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000865336	1/8 - 1/4 Mile ESE
2	USGS40000865347	1/4 - 1/2 Mile West
4	USGS40000865380	1/4 - 1/2 Mile West
5	USGS40000865337	1/4 - 1/2 Mile WSW
6	USGS40000865467	1/4 - 1/2 Mile NW
7	USGS40000865284	1/4 - 1/2 Mile SW
8	USGS40000865507	1/4 - 1/2 Mile NNW
9	USGS40000865224	1/2 - 1 Mile SW
10	USGS40000865325	1/2 - 1 Mile East
11	USGS40000865193	1/2 - 1 Mile SW
12	USGS40000865579	1/2 - 1 Mile North
13	USGS40000865148	1/2 - 1 Mile SSW
14	USGS40000865071	1/2 - 1 Mile SSW
15	USGS40000865324	1/2 - 1 Mile East
16	USGS40000865097	1/2 - 1 Mile SSW
17	USGS40000865399	1/2 - 1 Mile West
18	USGS40000865628	1/2 - 1 Mile NNE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

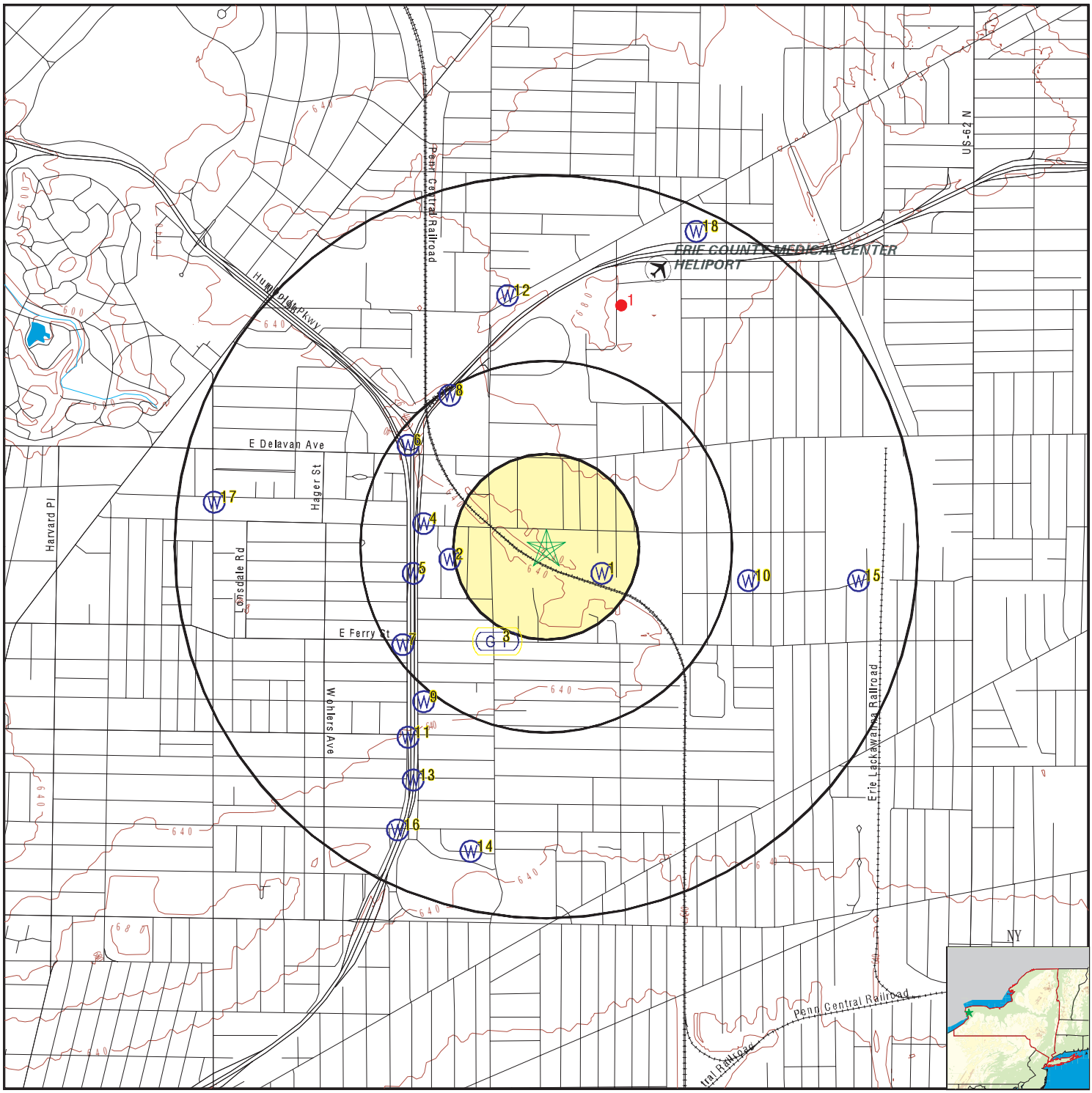
MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	NYOG10000034975	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 7555240.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	631 Northland Avenue	CLIENT:	Ravi Engineering & Land Surveying, P.C.
ADDRESS:	631 Northland Avenue Buffalo NY 14211	CONTACT:	Lynn.zicari
		INQUIRY #:	7555240.2s
LAT/LONG:	42.91832 / 78.836317	DATE:	January 30, 2024 4:40 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

1
ESE
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000865336**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 342		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-45	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

2
West
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000865347**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 344		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-46	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

3
SSW
1/4 - 1/2 Mile
Lower

AQUIFLOW **43676**

Site ID:	8804436
Groundwater Flow:	Not Reported
Shallowest Water Table Depth:	81.40
Deepest Water Table Depth:	Not Reported
Average Water Table Depth:	Not Reported
Date:	Not Reported

4
West
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000865380**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 348		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-62	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

5
WSW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000865337**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 343		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-47	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

6
NW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000865467**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 362		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-63	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

7
SW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000865284**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 332		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-48	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

8
NNW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000865507**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 364		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-64	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

9
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000865224**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 329		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-49	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

10
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000865325**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 339		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-44	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

11
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40000865193**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 327		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-50	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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12
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000865579**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 369	Type:	Well
Description:	Niagara Project: BNE-65	HUC:	04120104
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	New York and New England carbonate-rock aquifers		
Formation Type:	Onondaga Limestone	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	90
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1951
Feet below surface:	20	Feet to sea level:	Not Reported
Note:	A nearby site that taps the same aquifer was being pumped.		

13
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000865148**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 326		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-51	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

14
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000865071**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 318	Type:	Well
Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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15
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000865324**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 338		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-43	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

16
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000865097**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 322		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-52	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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17
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000865399**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 349		

Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-61	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

18
NNE
1/2 - 1 Mile
Higher

FED USGS **USGS40000865628**

Organization ID:	USGS-NY	Organization Name:	USGS New York Water Science Center
Monitor Location:	E 376		
Type:	Well: Test hole not completed as a well		
Description:	Niagara Project: BNE-68	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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1G
SSW
1/4 - 1/2 Mile
Lower

AQUIFLOW **43676**

Site ID:	8804436
Groundwater Flow:	Not Reported
Shallowest Water Table Depth:	81.40
Deepest Water Table Depth:	Not Reported
Average Water Table Depth:	Not Reported
Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
NNE **OIL_GAS** **NYOG10000034975**
1/2 - 1 Mile

API #:	31029008400000	Well Name:	City Hospital Grounds 1
Owner:	Buffalo City of	Operator:	9041
Well Status:	Not Reported	Well Type:	Gas Wildcat
Permit Date:	Not Reported	Drill Date:	Not Reported
Completion Date:	Not Reported	Plug Date:	Not Reported
Field Name:	Buffalo	Formation:	Medina
Borehole Slant:	Vertical	State Owned Lease:	NA
Proposed Depth:	0	True Depth:	3420
Measured Length:	3420		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: NY Radon

Radon Test Results

County	Town	Num Tests	Avg Result	Geo Mean	Max Result
ERIE	ALDEN	123	5.69	1.93	185.3
ERIE	AMHERST	864	2.57	1.15	115.6
ERIE	AURORA	436	10.94	4.46	215.6
ERIE	BOSTON	101	9.51	4.47	49.9
ERIE	BRANT	9	12.9	4.13	78.7
ERIE	BUFFALO	936	1.18	0.62	63.2
ERIE	CHEEKTOWAGA	444	1.03	0.71	30.8
ERIE	CLARENCE	244	6.79	2.37	207.8
ERIE	COLDEN	45	5.4	3.44	38
ERIE	COLLINS	48	11.83	4.76	115.1
ERIE	CONCORD	180	15.75	7.87	163
ERIE	EDEN	163	6.74	3.33	206.7
ERIE	ELMA	282	8.17	3.15	213.6
ERIE	EVANS	121	5.77	2.92	92.3
ERIE	GRAND ISLAND	85	1.41	1.03	7.5
ERIE	HAMBURG	753	4.9	2.2	136.8
ERIE	HOLLAND	55	8.09	3.57	122.9
ERIE	KENMORE	146	0.75	0.56	4.8
ERIE	LACKAWANNA	42	1.45	0.83	11.4
ERIE	LANCASTER	177	2.76	1.17	155.1
ERIE	MARILLA	239	28.88	9.31	371.9
ERIE	NEWSTEAD	88	3.44	2.35	18
ERIE	NO. COLLINS	28	7.97	3.88	75.6
ERIE	ORCHARD PARK	490	4.8	2.37	116.9
ERIE	SARDINIA	25	22.28	8.33	121.2
ERIE	TONAWANDA	392	1.04	0.72	18.9
ERIE	W. SENECA	266	2.51	1.35	55.8
ERIE	WALES	44	11.97	4.35	181.7

Federal EPA Radon Zone for ERIE County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ERIE COUNTY, NY

Number of sites tested: 622

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.000 pCi/L	89%	11%	0%
Basement	1.150 pCi/L	87%	11%	2%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Freshwater Wetlands
Source: Department of Environmental Conservation
Telephone: 518-402-8961

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

New York Public Water Wells
Source: New York Department of Health
Telephone: 518-458-6731

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database
Source: Department of Environmental Conservation
Telephone: 518-402-8072
These files contain records, in the database, of wells that have been drilled.

RADON

State Database: NY Radon
Source: Department of Health
Telephone: 518-402-7556
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX 6

FOIL Requests & Responses

Holley Chamberlin

From: New York DEC FOIL Center <newyorkdec@govqa.us>
Sent: Wednesday, January 31, 2024 12:39 PM
To: Holley Chamberlin
Subject: FOIL Request :: W126313-013124

Dear Holley:

Thank you for your Freedom of Information Law (FOIL) request. Your request has been received and is being processed. Your request was received in this office on 1/31/2024 and given the reference number FOIL #W126313-013124 for tracking purposes. You may expect the Department's response to your request no later than **2/29/2024**.

Record Requested: **Please forward me environmental records the property addressed as 631 Northland Avenue in the City of Buffalo, Tax ID#140200101.21-5-1.21, owned by 631 Northland LLC. Please include the following records: • spills releases (please include spill reports and associated records/mapping/reports) • petroleum bulk storage (PBS) including underground storage tanks (USTs) • health or environmental violations • wetlands • consent order • permits • hazardous waste activity**

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed. Again, thank you for using the FOIL Center.

Click here to login to the FOIL Center.

New York State Department of Environmental Conservation, Record Access Office

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Track the issue status and respond at:
https://newyorkdec.govqa.us/WEBAPP//_rs/RequestEdit.aspx?rid=126313

ERIE COUNTY CLERK's OFFICE
Freedom of Information Law
Application For Access to Public Records

Instructions: Complete this form and return, by mail, email, or deliver in-person, to the FOIL Officer at the **Erie County Clerk's Office, 92 Franklin Street Buffalo, NY 14202 or ECCOFOIL@erie.gov**

****To request information maintained by an independent office within Erie County Government (i.e., Board of Elections, County Executive, Comptroller, District Attorney, Legislature, and Sheriff) you must contact that office directly on how to submit a FOIL request. ****

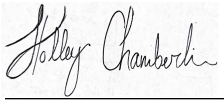
The Erie County Clerk's Office will respond within 5 days of receipt of your request to acknowledge receipt and / or make the record available for review. Many records are already available for review in the Clerk's Office at the public computers or, if the record sought is a court record, by going online to https://iapps.courts.state.ny.us/nyscef/HomePage. If the record is not available within five days of receipt of such request, you will be advised of the approximate date when such record may be made available or when such request may be granted or denied.

In accordance with the Public Officers Law and the statutory authority granted under the New York Civil Practice Law and Rules, the Clerk's Office may charge $0.65 per page with a minimum fee of $1.30 as well as other charges associated with the cost of reproducing a record. Payment MUST be made at time of pick-up. If mailing is requested, please provide a self-addressed postage paid envelope.

I hereby apply to [ ] inspect or obtain [ ] a hard copy [X] an electronic copy of the following records under the provisions of the Freedom of Information Law (please include as much detail about the records as you can, including relevant dates, names, descriptions, ect): _____

Please forward me environmental records the property addressed as 631 Northland Avenue in the City of Buffalo, Tax ID#140200101.21-5-1.21, owned by 631 Northland LLC. Please include the following records: Liens/deed restrictions, chemical and/or petroleum spills/releases, underground storage tanks, health or environmental violations, wetlands, consent order, permits, hazardous waste activity, and waste disposal facilities within one half mile.

*If your request is for a list of names and addresses produced by this office, by signing this form, you are certifying that you will not use such list for solicitation or fund-raising purposes Print Name and Organization and will not sell, give or otherwise make available such list to any other person for the purpose of allowing that person to use such lists of names and addresses for solicitation or fundraising purposes.



Signature* 1/31/2024 Date

Holley Chamberlin, Ravi Engineering & Land Surveying P.C.
Print Name and Organization

2110 South Clinton Avenue, Suite 1, Rochester, New York 14618
Mailing Address

hchamberlin@ravienv.com (607)661-8600
Email Phone

……..

FOR AGENCY USE ONLY

[ ] Approved
Denied (for the following reasons)
[ ] Confidential disclosure
[ ] Part of investigatory files
[ ] Unwarranted invasion of personal privacy
[ ] Record of which this agency is legal custodian cannot be found
[ ] Record is not maintained by this agency
[ ] Excepted by statute other than the Freedom of Information Law

Freedom of Information Law Request

Click here to give us feedback regarding this web site

The City of Buffalo has received your Freedom of Information (FOIL) request. Please make a note of the ID number for future reference: 1001985378. We will process your request and respond within 5 business days. You may track the status of your request by clicking this link: FOIL Request Tracking
Thank you for contacting us.

Please close this window Close Window

APPENDIX 7

Qualifications of Professionals

Whitney McAlpin
Environmental Scientist

RAVI ENGINEERING & LAND SURVEYING, P.C.



EDUCATION

B.S., Environmental Sciences, SUNY Fredonia

CERTIFICATIONS

OSHA 40 hour HAZWOPER
OSHA 10 Hour Construction Safety Course
NYSDOH Certified Asbestos Inspector

Ms. McAlpin has over eleven years of experience performing Phase I and II Environmental Site Assessments (ESAs). She has conducted ESAs on numerous property types including private, commercial, industrial and manufacturing facilities, warehouses, gasoline filling stations, automobile service and repair facilities, office buildings, apartment complexes, restaurants, and vacant or undeveloped properties.

PROJECTS

Old Upper Mountain Road, Lockport, NY - RE&LS provided environmental inspections and on-site construction administrative tasks for the Old Upper Mountain Road Site in Lockport, NYSDEC Site No. 932112. RE&LS provided a full-time Air Monitoring Technician (AMT) that was onsite daily for the duration of the project to provide air and fugitive dust monitoring. The AMT also provided daily weather, and creek stage monitoring, and assisted the Sampling Technician with the collection of samples for fill characterization, water treatment system efficacy, and usability of imported soils. Quality Assurance services and assistance with the Green Remediation Plan were included.

690 Portland Avenue NYSDEC Brownfield Cleanup, Rochester, NY - This project site is the former JML Optical property at 690 Portland Avenue in the city of Rochester, NY. RE&LS was asked to investigate the cleanup of the trichloroethylene (TCE)-contaminated project for the city. Decades of the operation of JML Optical resulted in a TCE plume in groundwater migrating away from the former JML building, impacting the residential properties to the west. The investigation included the installation of overburden and bedrock monitoring wells, and sampling soil, and groundwater. Soil vapors were also sampled in conformance with the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Based on these results, NYSDEC requested that we install a deeper bedrock well. RE&LS installed and sampled the deeper well by "packer testing" to segregate the zones of contaminated bedrock groundwater. RE&LS completed the Remedial Investigation (RI) in compliance with the BCP. Several Interim Remedial Measures dealing with the dense non-aqueous phase liquid (DNAPL) cleanup of TCE were performed. This included the installation of sub-slab depressurization systems (SSDS) in three residential properties along Portland Avenue to address TCE vapor encroachment, as well as source removal of approximately two drums of hazardous TCE-contaminated sump sediments from inside of the former JML building.

Finger Lakes Area Counseling & Recovery Agency, Clifton Springs, Ontario County, NY - The Finger Lakes Area Counseling and Recovery Agency (FLACRA) is a multi-county residential and outpatient substance abuse treatment agency serving individuals and families in the Finger Lakes. A NEPA screening was conducted to construct a new building on currently undeveloped land located. The new building is an 11,500 square foot (sq. ft.) and houses administrative offices, multiple programs, staff and an Opioid Crisis Center. RE&LS provided a Phase I Environmental Site Assessment for the environmental screening necessary to complete the Environmental Report documenting preliminary compliance with National Environmental Policy Act (NEPA). The Environmental Report was required to secure funding through the United States Department of Agricultural (USDA) for the proposed construction of the Administration Building

City of Rochester, Phase II Environmental Site Assessment, 101-113 Franklin Street, 106 Pleasant Street, Rochester, New York
The Site consisted of two City-owned parcels of undeveloped land ("parking lot") and ("vacant commercial land"). The City regarded the Site as a future mixed-use development site that could include apartments or townhouses. The site has a 140 year history of residential and commercial use and a Sanborn Map that depicted three gasoline tanks on the northern part of the Site. In addition, the site has documented history of a printing shop, automobile repair facility, welding shop, dry cleaning facility, photographic facility, and metal foundry buildings over the properties long history. RE&LS environmental services included: soil test borings and installation of groundwater monitoring wells; toxicity characteristic leaching procedure (TCLP) sampling of soil or fill materials; water level measurements and survey of monitoring well evaluations; GPS recording of Phase II ESA; Preliminary Geotechnical investigation point locations; characterization and disposal of investigation-derived waste; and a Preliminary Geotechnical. (2019)

Rochester Central School District School, No. 6 Dag Hammarskjold Elementary School Phase I & Limited Phase II ESA, City of Rochester - RE&LS performed a Phase I and Limited Phase II ESA to investigate petroleum odors encountered during a geotechnical survey of the Site. Whitney assisted with the Phase I and provided field work, drilling oversight, soil screening, and collected soil and groundwater samples to investigate Site conditions. Whitney assisted with the oversight during an EM Survey to investigate suspect and potential underground storage tanks, and and prepared the Remedial Action Plan to delineate and remediate the spill. (2018)

First Buffalo River Marina Capital Improvements, Buffalo, NY - The Erie Canal Harbor Development Corporation retained RE&LS as part of a design team to provide master planning, environmental review, site management plan, design, permitting, bidding, and construction administration and inspection services related to the capital improvement of the First Buffalo River Marina. RE&LS reviewed a previous Phase I ESA. RE&LS recommend collecting surficial soil samples across the Site. We also recommended a radiological survey across the Site to investigate for radioactive slag. Whitney performed a Historical records review**.** (2018)

111 West Shore Boulevard, Newark, NY (drycleaner) – Phase II Whitney conducted a Phase I and Limited Phase II Environmental Site Assessment (ESA) in the Town of Newark, New York, in conformance with the NYSDOH soil vapor intrusion protocols. The project also included indoor air sampling. The Site was used as a dry cleaning facility from 1989 until 2016. (2018)

136 Barberry Terrace, Rochester, New York – Phase II Whitney prepared a Phase II ESA to address potential vapor intrusion conditions. Based on the construction date of the subject building and the presence of LBP (lead-based paints), surficial soil was potentially contaminated with lead. She collected one composite soil sample from beneath the dripline of the subject building. Numerous VOCs indicative of contamination from a petroleum spill, an auto body repair shop and/or manufacturing operations were detected in the sub-slab and indoor air samples. (2018)

129 Fernwood Avenue, Rochester, NY – Phase II Whitney prepared a Phase I ESA report and concluded that vapor encroachment was a potential concern. She supervised a Phase II ESA including surficial soil sampling for lead, groundwater sampling using a geoprobe and installation of a temporary groundwater monitoring well.

Speedy's Cleaners, 3130 Monroe Ave, Rochester, NY– Whitney performed field sampling for soil vapor intrusion via the placement of Summa air canisters at this brownfield site. The field sampling was required to perform a series of sub-slab differential pressure measurements to determine soil vapor intrusion mitigation system coverage and efficiency. She also provided oversight for the installation of improvements to a sub slab depressurization system.

Environmental Oversight of Reef Vessel Preparations New York State Canal Corporation, Environmental Oversight Reliable Vessel, Phoenix NY RE&LS conducted Environmental Oversight activities for vessel preparation of the Reliable located in Phoenix, New York. RE&LS provided guidance to the contractor with the goal of meeting the remediation requirements as provided by the NYS Department of Environmental Conservation and the USEPA document titled "National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs." RE&LS ensured all materials were properly removed and disposed of in accordance with all best management practices, applicable federal and state rules and regulations. RE&LS also provided environmental monitoring services on this project. (2019)

Inactive Hazardous Waste Disposal Site—Rochester NY - As part of a refinance, RE&LS was retained to conduct a Phase I ESA at a City of Rochester property. The facility was formerly listed as an inactive hazardous waste disposal site, based on its 90 year history as an aluminum and sheet metal manufacturing facility. Multiple investigations completed at the property identified chlorinated solvent impacts on site soils and groundwater. Ms. McAlpin was responsible for conducting the Phase I ESA in accordance with ASTM standards and assisted in the client's assessment of current environmental risk.

Buffalo Outer Harbor State Park, Buffalo, NY RE&LS was responsible for the Asbestos and Hazardous Materials survey and sampling, inspection, and testing for PCB caulks. This included a room-by-room investigation of all interior and exterior spaces within ten buildings. Sampling was performed in accordance with AHERA regulations, 40 CFR Part 763.86 and 763.87 and NYS Code Rule 56. As part of this project, Whitney performed surficial and subsurface soil sampling using a geoprobe for VOCs, metals and soil health analysis. She also measured soil compaction using a penetrometer. (2019-2020)

Transportation
RE&LS provided environmental screenings on these transportation projects. Services included determination of the NEPA and SEQR classifications, as well as the evaluation of potential impacts on: general ecology and endangered species, ground water, surface water, state and federal wetlands, floodplains, navigable waterways, historic resources, hazardous waste, asbestos, noise, air quality, energy, farmland, visual impacts and critical environmental areas. Whitney assisted in gathering information and preparation of reports for environmental screenings on the following

Inactive Hazardous Waste Disposal Site—Rochester NY - As part of a refinance, Ms. McAlpin was retained to conduct a Phase I ESA at a City of Rochester property. The facility was formerly listed as an inactive hazardous waste disposal site, based on its 90 year history as an aluminum and sheet metal manufacturing facility. Multiple investigations completed at the property identified chlorinated solvent impacts on site soils and groundwater. Ms. McAlpin was responsible for conducting the Phase I ESA in accordance with ASTM standards and assisted in the client's assessment of current environmental risk.

Lynn Zicari
Environmental Scientist

RAVI ENGINEERING & LAND SURVEYING, P.C.



EDUCATION

B.S., Environmental Science, SUNY Brockport
Magna Cum Laude; Presidents List

CERTIFICATIONS & ASSOCIATIONS

NYSDOH Certified Asbestos Inspector
NYSDOH Certified Air Project Monitor
40 Hour HAZWOPER
10 Hour Construction Safety Course
NYSDEC Erosion and Sediment Control Qualified Inspector
Wetland Delineation & Regional Supplement Training

PROFESSIONAL EXPERIENCE

Lynn is an environmental professional with over ten years of experience performing Phase I Environmental Site Assessments, Phase II investigations, air project monitoring, Hazardous Materials Inspections, and remedial plans, soil gas surveys, underground storage tank closures, Brownfield Cleanup Program remedial investigations, and NYSDEC Electronic Data Deliverable (EDD) preparation. She is a dedicated environmental professional proficient in environmental chemistry analytical techniques, and Geographical Information Systems.

PROJECTS

690 Portland Avenue NYSDEC Brownfield Cleanup, Rochester, NY -This project site is the Former JML Optical property at 690 Portland Avenue in the City of Rochester, NY. RE&LS conducted the remedial investigation of this trichloroethylene (TCE)-contaminated property. Decades of the operation of Former JML Optical resulted in a TCE plume in groundwater migrating away from the site, impacting the residential properties to the west. The investigation included the installation of overburden and bedrock monitoring wells, and soil and groundwater sampling for contaminants of concern and PFAS analytes.. Soil vapors were sampled in conformance with the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Based on these results, NYSDEC requested that a deeper bedrock well was installed. RE&LS installed and sampled the deeper well by "packer testing" to segregate the zones of contaminated bedrock groundwater. RE&LS completed the Remedial Investigation (RI) in compliance with NYSDEC DER-10 regulations. Several Interim Remedial Measures were performed. This included the installation of sub-slab depressurization systems (SSDS) in three residential properties along Portland Avenue to address TCE vapor encroachment, as well as source removal of approximately two drums of hazardous TCE-contaminated sump sediments from inside of the former JML building.

University at Albany, Class Lab Renovation Phase VI, Albany, New York - The Class Lab Renovation Phase VI included the renovation of labs and classroom space within the Biology and Chemistry Buildings on the Uptown Campus of the University of Albany. RE&LS provided Inspection and Design Services for the Project as well as Project Monitoring and Air Sampling during construction. The Project included the removal of asbestos-containing, PCB-containing and lead-containing materials over the course of several phases lasting over a 1-year period. RE&LS's Project Monitor was instrumental in identifying disturbed vermiculite insulation during construction prior to further demolition activities assisted in preventing a much larger incidental disturbance. RE&LS collected over 1,000 air samples during the abatement and provided visual inspections for over twenty-five work areas.

Lyell Ave, Rochester, NY –RE&LS performed Phase I & II Environmental Site Assessments for Edward N. Annechino/Josephine Annechino Trust and Knauf Shaw LLP. The subject site was a nearly half-acre lot with a brick building at the southeast corner of the Lyell Avenue and Mt. Read Boulevard intersection in the City of Rochester, New York. The site was originally opened as a gas station in 1921 and operated as a gas station and auto center by a series of owners until the 2000s. RE&LS conducted an intial site inspection of the historic pump islands, on-site brick building, UST pads and vent pipes south of the building, indicative of an historic waste oil tank, and the fuel oil tank.

Rome Waterfront Village Infrastructure Improvements, Rome, NY - The Rome Waterfront Village project was intended to foster the revitalization of the area between South James Street and Erie Boulevard north of the Erie Canal as well as improve public access to the canal. The development included the construction of a bulkhead and dock system within the Erie Canal as well as public walkways, seating areas, utility infrastructure, and stormwater management practices. Lynn performed Phase I ESA's to investigate the potential impact of several properties in the Rome Waterfront Village Infrastructure Improvement project. The Phase I Environmental Site Assessment (ESA's) where on each of the two Sites within the Rome Waterfront Village project area. Lynn also provided a third party review on the historical documents of the sites.

City of Rochester, Bull's Head Brownfield Opportunity Area (BOA), Rochester, NY – This project included community participation, research, analysis, and planning activities necessary to conduct and prepare a BOA Nomination Study Report of the area referred to as the Bull's Head neighborhood which was defined as approximately 188 acres of land that centers on the intersections of Brown Street, West Main Street, Genesee Street, Chili Avenue and West Avenue in the City of Rochester. RE&LS provided a detailed description and analysis of existing conditions, opportunities, and reuse potential for properties located in the BOA with an emphasis on the identification and reuse potential of strategic sites. RE&LS also provided the initial environmental conditions screening of parcels within the project site to identify potential brownfield sites.

Oswego Canal Corridor BOA Step 3 Oswego, NY - This consists of a 1,345 acre area on the City's waterfront characterized by 49 identified brownfield, vacant, and underutilized sites. The primary community revitalization objectives include creating a vibrant sustainable mixed use redevelopment district that enhances the City's historic downtown and port, providing access to the City's waterfront areas, supporting targeted industry growth, and complementing adjacent residential neighborhoods. Lynn performed two (2) Phase I ESAs to investigate the potential impact of several properties in the Oswego Canal Corridor BOA project area.

African American Cultural Center, Buffalo, NY - RE&LS was retained by the Buffalo Urban Renewal Agency for environmental consultant services for Phase I & Phase II Environmental Site Investigations for ten (10) properties located on Glenwood Avenue, Masten Avenue, and East Utica Street in the City of Buffalo. RE&LS's responsibilities included a visual inspection for suspect asbestos containing materials, suspect lead-based paint, mercury containing lights, switches and PCB ballasts, and possible mold contamination due to water intrusion. Survey responsibilities included a boundary survey and test boring locations at all properties.

5 & 15 Flint Street Brownfield Remedial Investigation, Rochester, NY - RE&LS has completed the Remedial Investigation for the New York State Department of Environmental Conservation Brownfield Cleanup Program (BCP) for the 5 & 15 Flint Street sites in Rochester, New York; this site is contiguous at the north side of the City of Rochester Vacuum Oil BCP. Lynn provided field work, drilling oversight, well development, soil vapor pathway sampling and analysis, collected water quality parameters, and screened for volatile organic compounds using a photo-ionization detector (PID).The groundwater collection method used was a low flow purging and sampling method with a bladder pump. In addition, Lynn prepared both the EDD and the RIR.

1440 Empire Boulevard Brownfield Remediation, Rochester, NY - The Site was an approximately 4.5-acre parcel on Empire Boulevard, it was proposed for a 358-unit apartment complex. Lynn was the lead on-site consultant during remedial activities to ensure that all work within the limits of the BCP was performed in accordance with the Remedial Action Work Plan (RAWP). Lynn sampled imported soils to ensure that soils met the NYSDEC criteria for soils used in the soil cover system, performed CAMP air monitoring (Community Air Monitoring Program) to ensure that contaminated soils were not migrating off-site. Lynn prepared the Final Engineering Report (FER) and the Electronic Data Deliverable (EDD). RE&LS continues to provide CAMP monitoring whenever the cap is breeched, as well as soil sampling of imported soils under the SMP.

10 Chapin Street Brownfield Remedial Action, Rochester, NY - RE&LS was hired to conduct the remediation of this former manufacturing site. Lynn prepared the Draft Remedial Action Work Plan.

37 Bittner Street, Rochester, NY - 37 Bittner Street is the parking lot at the north side of the Kirstein Building. It is proposed for development as a 93,200 sq. ft. 6-story apartment building with an underground parking garage. The parking lot at 37 Bittner Street was historically used as a public gas station with documented petroleum contamination in the underlying soils and groundwater. RE&LS obtained NYSDEC approval to perform a Brownfield Cleanup Program (BCP) to further define the nature and extent of potential on-site impacts resulting from historical operations at the site. The results of this investigation were used to evaluate remedial actions required to render the site suitable for development. Lynn provided groundwater sampling and underground storage tank (UST) closure assistance.

Rochester Central School District School No. 6 Dag Hammarskjold Elementary School Phase I & Limited Phase II ESA, City of Rochester - RE&LS performed a Phase I and Limited Phase II ESA to investigate petroleum odors encountered during a geotechnical survey of the site. Lynn performed the Phase I and provided field work, drilling oversight, soil screening, and collected soil and groundwater samples to investigate Site conditions. Based on the results of the Phase II, a petroleum spill was reported to the NYSDEC. Subsequent to the results of the Limited Phase II ESA, Lynn provided oversight during an EM Survey to investigate suspect and potential underground storage tanks, and conducted a subsurface investigation to delineate and remediate the spill, and prepared the Remedial Action Plan.

New Police Station, Niagara Falls State Park, Niagara Falls, NY - RE&LS provided Environmental and Permitting services for this term contract for the Rehabilitation and Improvement of various facilities at the Niagara Falls State Park. As part of this contract, RE&LS provided a Phase I Environmental Site Assessment (ESA) at the proposed new Police Station site along the Gorge Rim south of the existing Discovery Center. Findings from the Phase I ESA led to a Phase II test pit investigation, sampling, and radiological survey. Lynn was responsible for the Phase II radiological survey, soil sampling and vapor screening.

Richland Estates Phase I ESA, Greece, NY - RE&LS conducted a Site inspection for this residential development of eight lots in the Town of Greece, New York. Lynn performed the investigation, and prepared the Phase I ESA report in accordance with ASTM 1527-13.

Benjamin Reddy
Environmental Department Manager

RAVI ENGINEERING & LAND SURVEYING, P.C.



EDUCATION

History, B.A. – SUNY Brockport (2006)
Political Science, B.A. – SUNY Brockport (200(

PROFESSIONAL CERTIFICATIONS

NYS Asbestos Project Monitor/Air Technician
NYS Asbestos Project Designer/Management Planner
NYS Asbestos Inspector
NYS Asbestos Project Designer
USEPA Lead Risk Assessor/Inspector
NYS Mold Assessor Certification
OSHA 10 Hour
OSHA 40 Hour HAZWOPER
Aerial Lift Operator

Benjamin Reddy has over 16 years of experience of professional consulting in all facets of environmental related projects. His specialty and area of expertise in asbestos, lead and PCB abatement, regulatory compliance, radon studies, environmental and hazardous waste assessments provides clients with comprehensive solutions. His experience has consisted of site investigations, collection of asbestos and hazardous waste materials for analytical (bulk and air) testing, development of contract plans, specifications, and construction cost estimates for remediation projects, and development of hazardous and asbestos management plans, contractor oversight and report generation.

PROJECTS

Town of Ontario Library Renovations, Ontario, NY - RE&LS was retained by Town of Ontario to conduct a Limited Pre-Renovation Asbestos Survey/Inspection at Ontario Public Library. Certified Asbestos Inspectors assessed interior spaces for suspect asbestos-containing building materials that may be impacted by the proposed renovation project to determine the presence, location, quantity, and condition of asbestos-containing materials (ACMs). The Survey/Inspection was conducted to support the proposed ADA Accessibility Upgrades and general refurbishment renovation project at Ontario Public Library. RE&LS conducted the Survey/Inspection and provided the Hazardous Materials Inspection Report.

Old Upper Mountain Rd., Lewiston, NY - RE&LS provided environmental inspections and on-site construction administrative tasks for the Old Upper Mountain Road Site in Lockport, NYSDEC Site No. 932112. RE&LS provided a full-time Air Monitoring Technician (AMT) that was onsite daily for the duration of the project to provide air and fugitive dust monitoring. The AMT also provided daily weather, and creek stage monitoring, and assisted the Sampling Technician with the collection of samples for fill characterization, water treatment system efficacy, and usability of imported soils. Quality Assurance services and assistance with the Green Remediation Plan were included.

Wyoming Bus Facility Project, Wyoming County, NY - RE&LS performed a Pre-Renovation Asbestos Inspection, Lead Paint Survey, and PCB Caulk Survey for buildings at the Wyoming County Bus Facility. Following the inspection RE&LS created construction documents, abatement design documents and specifications for the removal of hazardous material. This project is currently in the design phase. It is anticipated that RE&LS performed the project/air monitoring services when abatement occurs.

Niagara Falls State Park Orin Lehman Visitor Center and Administration Building, Niagara Falls, NY - RE&LS conducted a Pre-Demolition Hazardous Materials Inspection consisting of a Pre-Demolition Asbestos Survey/Inspection, Pre-Demolition Polychlorinated Biphenyl (PCB) Caulk Survey, and Pre-Demolition Lead Paint Survey was completed at Niagara Falls State Park Orin Lehman Visitor Center. RE&LS provide a report of the results of the inspection/survey. RE&LS prepared Asbestos Abatement Design documents, including, plans and specifications for the renovation project and provided Construction Administration Services throughout the execution of the renovation.

Buffalo Outer Harbor – Terminal A, Buffalo, NY - RE&LS provided a Visual Assessment and Limited Asbestos Survey/Inspection for suspect asbestos-containing materials (ACMs) and the overall condition of the building materials of select areas in the building in Terminal A at Buffalo Outer Harbor. Based on the condition and presence of asbestos-containing materials and lead-based paint in the specific areas in Terminal A, RE&LS performed bulk sampling of suspect materials that were included in the report and provided safety recommendations for remediation 2021

SUNY Delhi, Upgrade Building Management Systems– Various Buildings, Delhi, NY - RE&LS conducted a Pre-Renovation Asbestos Survey/Inspection and Lead Paint Survey have been completed at ten campus buildings at SUNY Delhi. RE&LS provided the results in a report for each of the buildings to be impacted by the proposed renovation. RE&LS prepared Asbestos Abatement Design documents, including, plans and specifications for the renovation project and provided Construction Administration Services throughout the execution of the renovation.

Browncroft Community Church, Rochester, NY - The Church was planning major updates and renovations throughout the facility. RE&LS was retained by the Church to perform a hazardous material survey, creation of design documents and specifications, and provide project and air monitoring services as required by 12 NYCRR Part 56. The project involved replacement of all exterior windows, debris clean-up, floor tile removal and pipe insulation removal throughout. RE&LS worked closely with the architect, general contractor and abatement contractor to ensure that all work was completed in a timely and efficient manner.

RAVI ENGINEERING
& LAND SURVEYING, P.C.

September 10, 2024

Elizabeth Colvin
Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C.
237 Main Street, Suite 500
Buffalo, NY 14203

Re: Limited Phase II Environmental Site Assessment Report
631 Northland Avenue
Buffalo, New York

Dear Ms. Colvin:

Ravi Engineering & Land Surveying, P .C. (RE&LS) conducted additional surficial soil sampling to supplement our Limited Phase II Environmental Site Assessment (ESA) of 631 Northland Avenue, Erie County, Buffalo, New York (the "Site") (Figure 1). This report has been prepared to summarize field activities and observations, and analytical data of soil samples.

BACKGROUND

The subject site is an approximately 2.63-acre parcel on the south side of Northland Avenue in the City of Buffalo, New York (the "Site"). It was reportedly developed in 1953 in association with the Niagara Machine & Tool metal fabricating plant historically located on the eastern adjacent property at 683 Northland Avenue. It operated as a metal fabricating plant under the name Clearing Niagara, and has been vacant since operations ceased in 1992.

RE&LS performed a Phase I ESA in February 2024, and identified the use of the Site and adjacent properties for manufacturing of machinery and sheet metal, household and automotive polish, liquid and cement, electric control panels, and printed circuit boards as a Recognized Environmental Conditions (RECs). Additional investigation was recommended to determine if existing conditions at the Site meet the criteria necessary to enter into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program.

Prior to conducting the Limited Phase II ESA, RE&LS reviewed a 2015 Phase II ESA report prepared by Fisher Associates. Fisher's Phase II was conducted at 631, 683, 741, and 777 Northland Avenue. Soil borings were installed within the subject building and around the eastern and western perimeter of the building as well as on the referenced adjacent properties. One soil sample exhibited exceedances of Benzo(a)pyrene and arsenic above the Industrial Use Soil Cleanup Objective (SCO) at the southeastern portion of the Site. No groundwater samples were collected at the Site.

The results of our Limited Phase II ESA determined that metals detected in three of the four soil samples were at concentrations below 6 NYCRR Part 375 Unrestricted Use SCO. With the exception of arsenic, all concentrations were below the Commercial Use SCO. The arsenic concentration exceeds all Part 375 Restricted Use SCOs.

Two petroleum-related VOCs (m,p-Xylene and methylcyclohexane) were detected in one soil sample, and one solvent-related VOC (trichloroethene) was detected in one soil sample. None of the detections exceed Unrestricted Use SCOs. One SVOC was detected in one soil sample. The concentration is above the Unrestricted Use SCO, but is below the Commercial Use SCO.

PCB-1254 was detected in two soil samples near the southeastern corner of the building above. The concentrations are above the Unrestricted Use SCO, but below the Commercial Use SCO.

Three bedrock wells were installed in April 2024. Groundwater was sampled and analyzed for TCL and CP51 VOCs and CP51 SVOCs. There were no analytes detected in any of the groundwater samples.

METHODOLOGY

Surficial Soil Sampling

RE&LS conducted a surficial soil investigation on August 20, 2024. Fourteen surficial soil samples (SS-1 through SS-14) were collected around the western exterior of the building and southern property boundary (Figure 1). Asphalt, where present, was first cut to expose the soils beneath. A four inch diameter hand auger was then used to bore down to a depth of between six to thirteen inches below ground surface (bgs) for sample collection. Soil samples were screened for volatile organic compounds (VOCs) with a photoionization detector (PID) for evidence of petroleum impacts.

One proposed fifteenth soil sample was attempted to be collected beneath a steel girder in the pit of the interior furnace. A nearly impenetrable layer of steel and cast iron was encountered at the bottom of the furnace pit, and the sample location was abandoned after multiple attempts were made to create an opening within which to expose the soils for sample collection.

Fourteen (14) soil samples were submitted and analyzed by Paradigm Environmental Services, Inc. (Paradigm) for New York State Department of Environmental Conservation (NYSDEC) Target Compound List (TCL) semivolatile organic compounds (SVOCs) by Method 8270, Target Analyte List (TAL) metals by Methods 7471B and 6010C, and polychlorinated biphenyls (PCB) by Method 8082A. Paradigm's Laboratory Analytical reports are provided as Attachment A.

Based on the current zoning of the Site for light industrial use, soil analytical results were compared to 6 NYCRR Part 375 Restricted Use Soil Cleanup Objectives for Commercial and Industrial Use.

RESULTS

Soil Screening Results

Soil borings generally consist of crush and run gravel directly below the asphalt, with sandy loam grading to clay loam with depth. No evidence of impacts, ie odors, staining, or PID readings that would indicate petroleum contamination were noted.

SOIL Analytical Results

TAL Metals

Metals were detected in four of the fourteen soil samples at concentrations above 6 NYCRR Part 375 Commercial Use SCOs (Table 1).

- Seven of the fourteen samples reported concentrations of metals that exceed the Unrestricted Use SCOs.
- SS-1 has a concentration of manganese that exceeds the Industrial Use SCO.
- SS-7 has a concentration of arsenic that exceeds the Industrial Use SCO.
- SS-9 and SS-10 have concentrations of copper that exceed Commercial Use SCOs.

SVOCs

Several SVOCs were detected in multiple locations along the southern boundary of the property and in proximity to the exterior furnace.

- Benzo (a) anthracene was detected at concentrations above the Industrial Use SCOs in sample SS-3. Concentrations exceeded Commercials Use SCOs in sample SS-1 and SS-4.
- Benzo (a) pyrene was detected at concentrations above the Industrial Use SCOs in nine soil samples (SS-1, SS-2, SS-3, SS-4, SS-7, SS-9, SS-10, SS-11, and SS-14).
- Benzo (b) fluoranthene was detected at concentrations above the Industrial Use SCOs in sample SS-3. Concentrations exceeded Commercials Use SCOs in four soil samples (SS-1, SS-4, SS-7, and SS-10)
- Dibenz (a,h) anthracene was detected at concentrations above the Industrial Use SCOs in six soil samples (SS-1, SS-3, SS-4, SS-7, SS-9, and SS-10). Concentrations exceeded Commercials Use SCOs in sample SS-2.
- Indeno (1,2,3-cd) pyrene was detected at concentrations above the Industrial Use SCOs in soil samples SS-3. Concentrations exceeded Commercials Use SCOs in soil samples SS-1 and SS-9.

PCBs

PCB-1254 was detected in six soil samples (SS-1, SS-3, SS-4, SS-9, SS-10, and SS-12) and PCB-1248 was detected in two soil samples (SS-1 and SS-4). The concentrations are above the Unrestricted Use SCOs, but below the Commercial Use SCOs.

Paradigm's Laboratory Analytical Reports are included as Attachment A.

CONCLUSIONS AND RECOMMENDATION

Soil at the southern portion of the Site and in proximity to the exterior furnace are impacted with SVOCs and TAL metals above Industrial and Commercial Use SCOs.

Based on these and previous Phase II results, we recommend completing the NYSDEC Brownfield Cleanup Program (BCP) Pre-Application Worksheet and submitting it to the Region 9 Environmental Remediation Division of the NYSDEC to determine if environmental site conditions meet the criteria for inclusion in the BCP.

Sincerely,

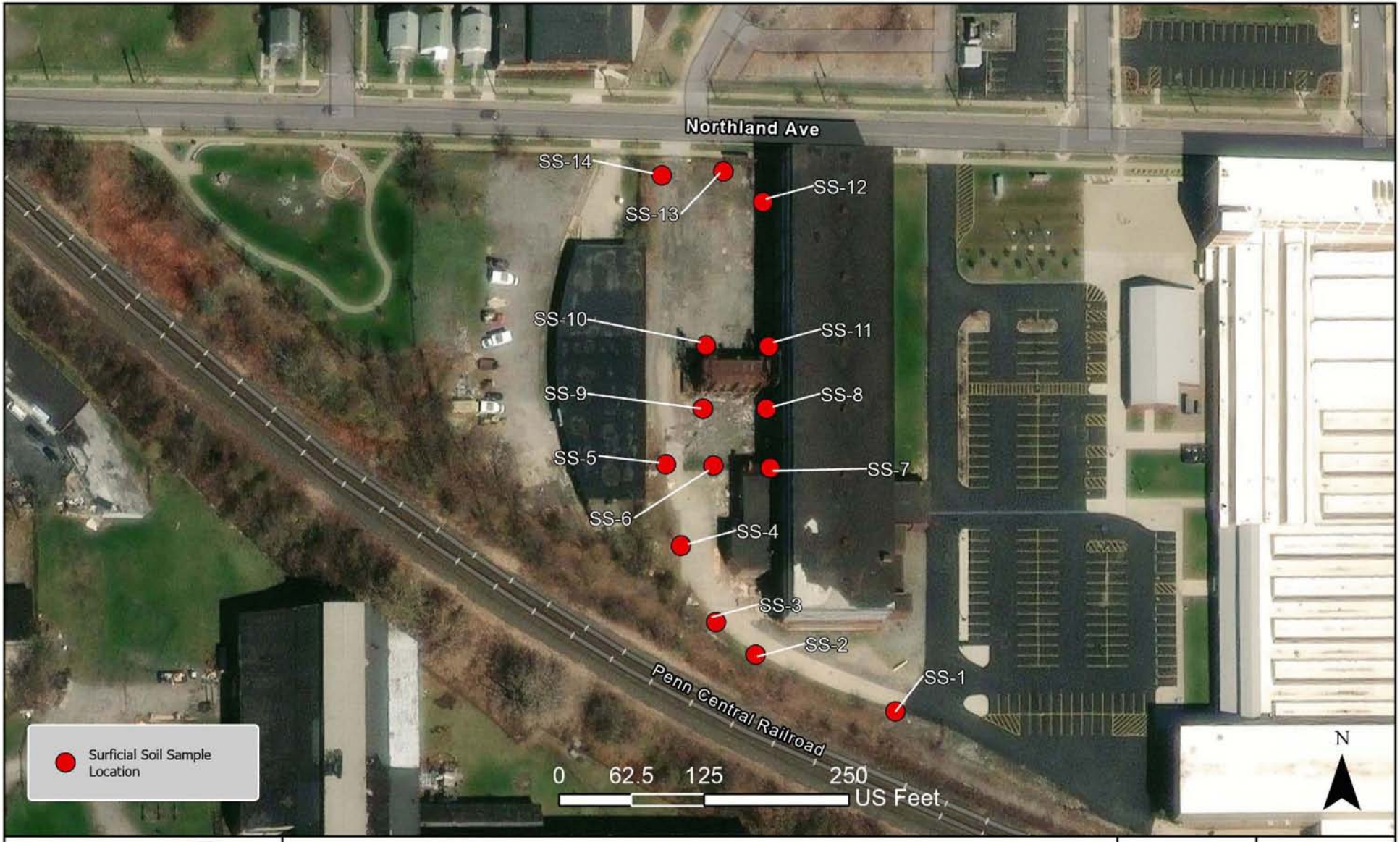


Lynn Zicari

Environmental Project Manager

ATTACHMENTS

Figure 1	Site Location/Surficial Soil Sampling Locations Map
Figure 2	Surficial Soil Sample Results – Soil Cleanup Objective Exceedances (Metals)
Figure 3	Surficial Soil Sample Results – Soil Cleanup Objective Exceedances (SVOCs)
Table 1	Soil Analytical Results
Attachment A	Laboratory Analytical Report



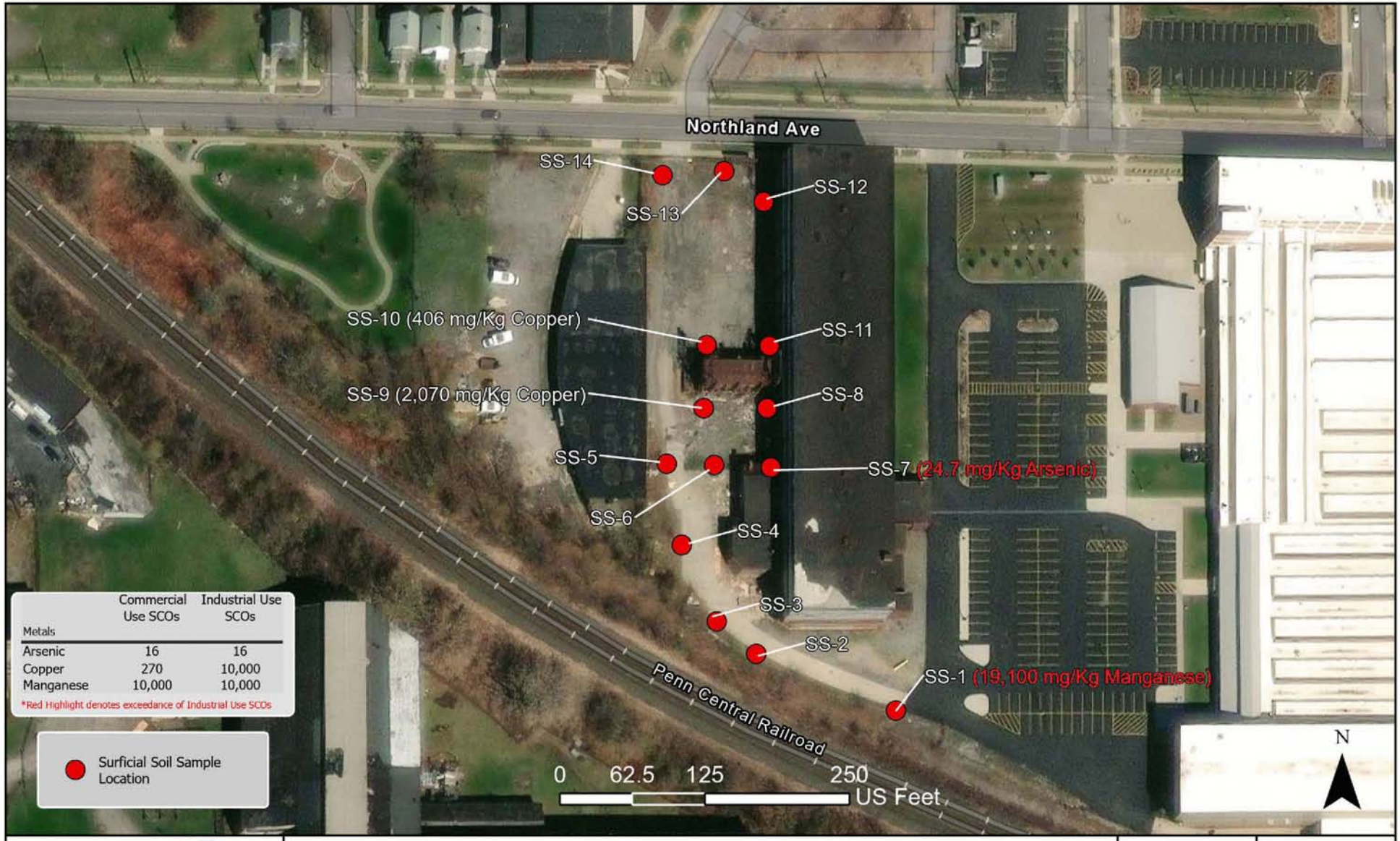
RAVI ENGINEERING & LAND SURVEYING, P.C.
2110 SOUTH CLINTON AVENUE, SUITE 1
ROCHESTER, NEW YORK 14618
TL: (585) 223-3660 FX (585) 697-1794

BUDC Building 631
631 Northland Avenue
Buffalo, New York 14211

PROJECT NO.	DATE:
43-24-029	SEP. 2024

SITE LOCATION / SURFICIAL SOIL SAMPLING LOCATIONS

SCALE:	DRAWING NO:
N.T.S	1



Metals	Commercial Use SCOs	Industrial Use SCOs
Arsenic	16	16
Copper	270	10,000
Manganese	10,000	10,000

*Red Highlight denotes exceedance of Industrial Use SCOs

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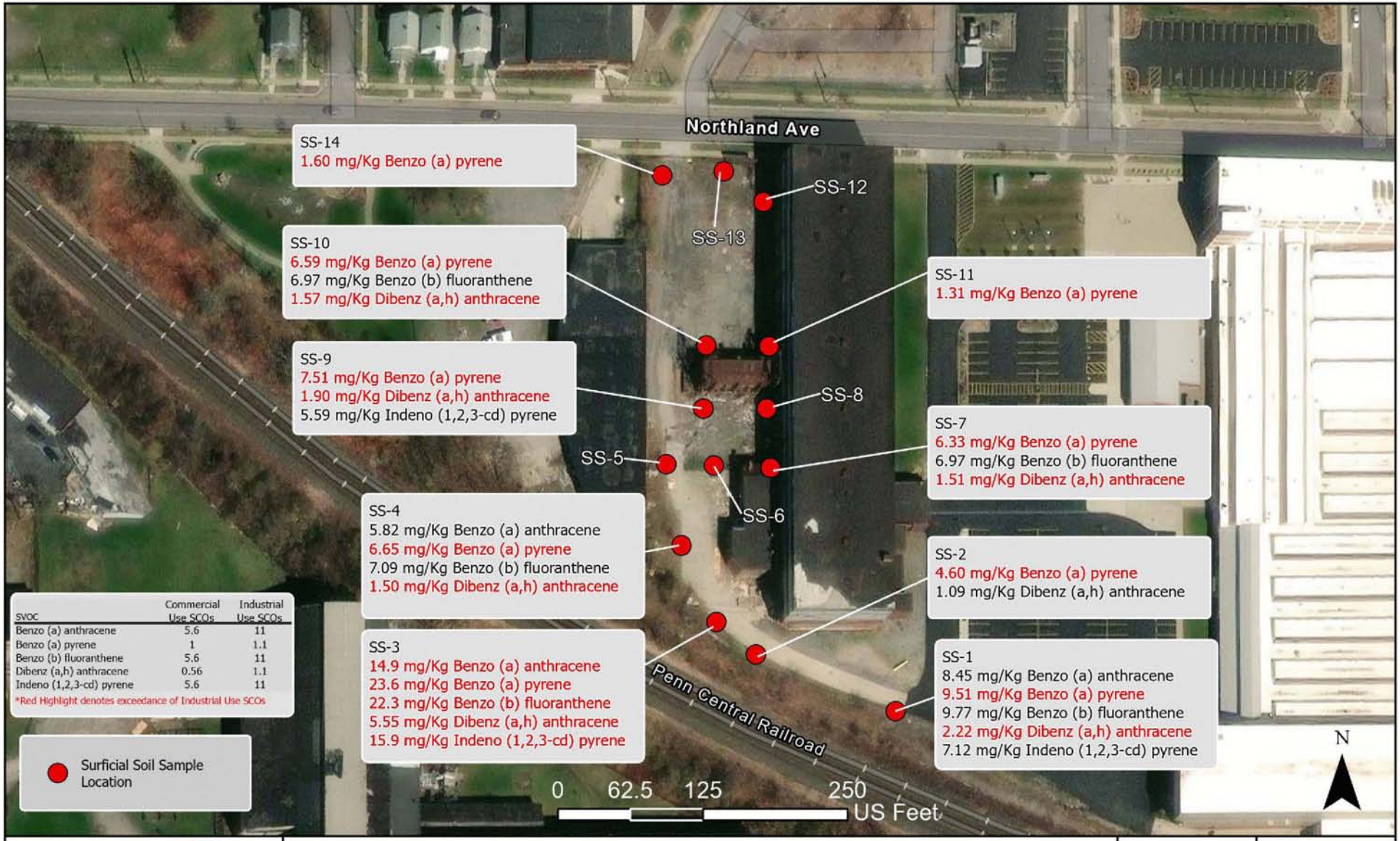
PROJECT NO.: 43-24-029

DATE: SEP. 2024

SURFICIAL SOIL SAMPLE RESULTS
SOIL CLEANUP OBJECTIVE EXCEEDANCES - Metals

SCALE: N.T.S

DRAWING NO.: 2



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631 Northland Avenue
Buffalo, New York 14211

PROJECT NO.: 43-24-029

DATE: SEP. 2024

SURFICIAL SOIL SAMPLE RESULTS
SOIL CLEANUP OBJECTIVE EXCEEDANCES - SVOCs

SCALE: N.T.S

DRAWING NO.: 3

Table 1
Soil Analytical Results
631 Northland Avenue
Buffalo, New York

Sample ID / Analyte	Unrestricted Use SCOs	Commercial Use SCOs	Industrial Use SCOs	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14
SVOCs																	
1,1-Biphenyl				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
1,2,4,5-Tetrachlorobenzene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
1,2,4-Trichlorobenzene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
1,2-Dichlorobenzene	1.1	500		< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
1,3-Dichlorobenzene	2.4	280		< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
1,4-Dichlorobenzene	1.8	130		< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,2-Oxybis (1-chloropropane)				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,3,4,6-Tetrachlorophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,4,5-Trichlorophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,4,6-Trichlorophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,4-Dichlorophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,4-Dimethylphenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,4-Dinitrophenol				< 2.430	< 1.130	< 4.560	< 2.310	< 1.190	< 1.120	< 1.210	< 1.150	< 1.220	< 1.200	< 1.110	< 1.220	< 1.140	< 1.180
2,4-Dinitrotoluene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2,6-Dinitrotoluene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2-Chloronaphthalene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2-Chlorophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2-Methylnapthalene				< 0.606	0.342	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	0.333	0.393	< 0.278	< 0.304	< 0.284	< 0.295
2-Methylphenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2-Nitroaniline				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
2-Nitrophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
3&4-Methylphenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
3,3'-Dichlorobenzidine				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
3-Nitroaniline				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
4,6-Dinitro-2-methylphenol				< 1.210	< 0.563	< 2.280	< 1.160	< 0.594	< 0.559	< 0.604	< 0.576	< 0.609	< 0.599	< 0.556	< 0.609	< 0.569	< 0.590
4-Bromophenyl phenyl ether				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
4-Chloro-3-methylphenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
4-Chloroaniline				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
4-Chlorophenyl phenyl ether				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
4-Nitroaniline				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
4-Nitrophenol				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Acenaphthene	20	500	1000	1.93	< 0.282	< 1.140	1.31	< 0.297	< 0.279	1.13	< 0.288	< 0.304	< 0.299	0.29	< 0.304	< 0.284	< 0.295
Acenaphthylene	100	500	1000	< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Acetophenone				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Anthracene	100	500	1000	2.98	0.375	1.14	2.08	< 0.297	< 0.279	1.71	< 0.288	0.475	< 0.299	0.641	< 0.304	< 0.284	< 0.295
Atrazine				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Benzaldehyde				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Benzo (a) anthracene	1	5.6	11	**8.45**	**2.8**	**14.9**	**5.82**	0.447	0.532	**5.41**	< 0.288	**4.85**	**4.12**	**1.33**	0.447	< 0.284	0.592
Benzo (a) pyrene	1	1	1.1	**9.51**	**4.6**	**23.6**	**6.65**	0.741	0.815	**6.33**	< 0.288	**7.51**	**6.59**	**1.31**	0.717	< 0.284	**1.6**
Benzo (b) fluoranthene	1	5.6	11	**9.77**	**4.17**	**22.3**	**7.09**	0.739	0.722	**6.97**	< 0.288	**5.19**	**6.97**	**1.38**	0.597	< 0.284	0.997
Benzo (g,h,i) perylene	100	500	1000	6.21	3.31	16	4.47	0.508	0.552	3.98	< 0.288	4.75	4.52	0.836	0.484	< 0.284	0.754
Benzo (k) fluoranthene	0.8	56	110	**7.22**	**3.11**	**15.6**	**4.64**	0.426	0.528	**3.8**	< 0.288	< 0.304	3.65	0.987	0.553	< 0.284	0.697
Bis (2-chloroethoxy) methane				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Bis (2-chloroethyl) ether				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Bis (2-ethylhexyl) phthalate				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Butylbenzylphthalate				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Caprolactam				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Carbazole				1.88	0.319	< 1.140	1.38	< 0.297	< 0.279	1.13	< 0.288	0.34	< 0.299	0.418	< 0.304	< 0.284	< 0.295
Chrysene	1	56	110	**9.97**	**3.98**	**19.4**	**6.64**	0.656	0.726	**6.52**	< 0.288	**6.17**	**5.36**	**1.52**	0.554	< 0.284	0.803
Dibenz (a,h) anthracene	0.33	0.56	1.1	**2.22**	**1.09**	**5.55**	**1.5**	< 0.297	< 0.279	**1.51**	< 0.288	**1.9**	**1.57**	0.307	< 0.304	< 0.284	< 0.295
Dibenzofuran		350		1.01	< 0.282	< 1.140	0.599	< 0.297	< 0.279	0.441	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Diethyl phthalate				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Dimethyl phthalate				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Di-n-butyl phthalate				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Di-n-octylphthalate				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Fluoranthene	100	500	1000	22.1	4.36	17.9	12.7	0.534	0.583	12	< 0.288	6.54	4.75	3.27	0.58	< 0.284	0.713
Fluorene	30	500	1000	1.89	< 0.282	< 1.140	0.953	< 0.297	< 0.279	0.919	< 0.288	< 0.304	< 0.299	0.339	< 0.304	< 0.284	< 0.295
Hexachlorobenzene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Hexachlorobutadiene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Hexachlorocyclopentadiene				< 2.430	< 1.130	< 4.560	< 2.310	< 1.190	< 1.120	< 1.210	< 1.150	< 1.220	< 1.200	< 1.110	< 1.220	< 1.140	< 1.180
Hexachloroethane				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295

Table 1
Soil Analytical Results
631 Northland Avenue
Buffalo, New York

Sample ID / Analyte	Unrestricted Use SCOs	Commercial Use SCOs	Industrial Use SCOs	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14
SVOCs																	
Indeno (1,2,3-cd) pyrene	0.5	5.6	11	**7.12**	**3.36**	**15.9**	**4.95**	**0.506**	**0.574**	**4.43**	< 0.288	**5.59**	**4.75**	**0.964**	0.504	< 0.284	0.767
Isophorone				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Naphthalene	12	500	1000	< 0.606	< 0.282	< 1.140	0.655	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	0.3	< 0.278	< 0.304	< 0.284	< 0.295
Nitrobenzene				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
N-Nitroso-di-n-propylamine				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
N-Nitrosodiphenylamine				< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Pentachlorophenol	0.8	6.7	55	< 1.210	< 0.563	< 2.280	< 1.160	< 0.594	< 0.559	< 0.604	< 0.576	< 0.609	< 0.599	< 0.556	< 0.609	< 0.569	< 0.590
Phenanthrene	100	500	1000	17.3	2.31	6.5	8.99	< 0.297	0.297	9.04	< 0.288	2.29	1.51	3.14	< 0.304	< 0.284	< 0.295
Phenol	0.33	500	1000	< 0.606	< 0.282	< 1.140	< 0.578	< 0.297	< 0.279	< 0.302	< 0.288	< 0.304	< 0.299	< 0.278	< 0.304	< 0.284	< 0.295
Pyrene	100	500	1000	18.3	4.93	20.8	11.1	**0.661**	0.775	10.6	< 0.288	6.97	5.55	2.72	0.606	< 0.284	0.779
Metals																	
Aluminum				5610	2240	2110	7320	2740	1410	3660	856	8320	3120	6480	5180	1740	4810
Antimony				14.4	< 2.94	< 3.22	< 3.35	< 3.20	< 5.71	< 3.10	< 3.03	< 3.18	< 3.38	< 3.18	< 3.19	< 2.91	< 3.01
Arsenic	13	16	16	6.38	3.25	5.81	9.07	7.67	3.09	**24.7**	2.74	7.3	8.24	4.71	6.32	2.37	8.62
Barium	350	400	10000	136	94.5	255	124	20.8	83.2	79.6	< 5.05	90.9	33.4	44.2	48.8	6.2	21
Beryllium	7.2	590	2700	< 0.759	< 0.245	< 0.268	0.575	< 0.267	< 0.476	< 0.258	< 0.253	0.752	< 0.282	< 0.265	0.421	< 0.243	< 0.251
Cadmium	2.5	9.3	60	4.18	0.82	1.75	**2.64**	0.475	< 0.476	**4.59**	< 0.253	0.795	0.895	0.466	0.335	< 0.243	0.281
Calcium				147000	228000	240000	179000	193000	256000	144000	147000	127000	181000	179000	169000	136000	207000
Chromium	30	1500	6800	**948**	**31**	**83.05**	**94.9**	11.8	9.84	**171**	3.83	24.9	21.6	9.8	9.48	5.42	9.81
Cobalt				9.74	3.75	4.55	6.32	2.73	< 4.76	11.6	< 2.53	3.38	< 2.82	4.05	< 2.66	< 2.43	< 2.51
Copper	50	270	10000	**132**	36.1	**94.9**	**196**	24.2	13.5	**237**	6.23	**2070**	**406**	16.8	16.3	7.2	10.4
Iron				85700	15100	41700	56000	9590	8670	123000	2670	19400	19300	10000	6170	2940	5200
Lead	63	1000	3900	187	43.4	**98.9**	**101**	24.1	7.07	42.2	2.78	33.6	33.4	45.4	34.7	8.32	12
Magnesium				17400	7790	7150	17800	9340	8510	7700	4030	11400	8090	10200	8340	3620	8450
Manganese	1600	10000	10000	**19100**	1100	1470	1380	147	270	**3070**	52.2	**1770**	533	268	651	91.5	96.8
Mercury	0.18	2.8	5.7	0.101	0.0262	0.118	0.0561	0.0135	0.0129	0.0506	< 0.00706	0.0188	0.0264	0.0683	0.0279	0.0206	0.0165
Nickel	30	310	10000	**44.7**	16.4	**33.2**	**64.2**	16.3	7.92	**109**	7.6	16.4	20.6	11.2	7.42	7.14	9.99
Potassium				597	970	584	895	1100	607	1080	547	927	677	1730	909	836	2540
Selenium	3.9	1500	6800	< 3.04	< 0.982	< 1.07	< 1.12	< 1.07	< 1.90	< 1.03	< 1.01	< 1.06	< 1.13	< 1.06	< 1.06	< 0.971	< 1.00
Silver	2	1500	6800	< 1.52	< 0.491	< 0.537	< 0.558	< 0.533	< 0.952	< 0.517	< 0.505	< 0.530	< 0.563	< 0.530	< 0.532	< 0.485	< 0.502
Sodium				849	396	427	568	250	270	592	204	365	328	240	270	189	265
Thallium				< 3.80	< 1.23	< 1.34	< 1.40	< 1.33	< 2.38	< 1.29	< 1.26	< 1.32	< 1.41	< 1.32	< 1.33	< 1.21	< 1.26
Vanadium				402	14.1	19.4	16.4	7.35	4.42	16.9	3.22	8.56	7.19	13.7	6.94	6.55	12.2
Zinc	109	10000	10000	**699**	84.2	**172**	**222**	55	24.1	**115**	14.4	54	69.7	100	37.8	35.5	34.7
PCBs																	
PCB-1016	0.1			< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1221	0.1			< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1232	0.1			< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1242	0.1	1		< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1248	0.1	1		**0.490**	< 0.145	<0.156	**0.172**	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1254	0.1	1		**0.356**	< 0.145	**0.218**	**0.223**	< 0.164	< 0.165	< 0.134	< 0.142	**0.449**	**0.179**	< 0.150	**0.186**	< 0.163	< 0.131
PCB-1260	0.1	1		< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1262	0.1	1		< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
PCB-1268	0.1	1		< 0.137	< 0.145	<0.156	< 0.125	< 0.164	< 0.165	< 0.134	< 0.142	< 0.163	< 0.131	< 0.150	< 0.164	< 0.163	< 0.131
	Unrestricted Use SCOs	Commercial Use SCOs	Industrial Use SCOs	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14

LEGEND

Units are in mg/Kg

NS = No standard listed in NYSDEC Part 375 for the associated analyte

Bold font denotes analyte exceeds Unrestricted Use SCO

Highlighted cell denotes analyte exceeds Commercial Use SCO

Red font denotes analyte exceeds Industrial Use SCO

ATTACHMENT A

Laboratory Analytical Report

631 Northland Avenue
Buffalo, Erie County, New York
RE&LS PN 43-24-029

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

243844

Referencing

631 Northland Ave

Prepared

Friday, August 30, 2024

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Emily Hamer

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-1		
Lab Sample ID:	243844-01	**Date Sampled:** 8/20/2024	11:00
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.101**	mg/Kg		8/26/2024 15:47

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**5610**	mg/Kg		8/23/2024 16:29
Antimony	**14.4**	mg/Kg		8/23/2024 16:29
Arsenic	**6.38**	mg/Kg		8/23/2024 16:29
Barium	**136**	mg/Kg		8/23/2024 16:29
Beryllium	< 0.759	mg/Kg		8/23/2024 16:29
Cadmium	**4.18**	mg/Kg		8/23/2024 16:29
Calcium	**147000**	mg/Kg		8/23/2024 16:44
Chromium	**948**	mg/Kg		8/23/2024 16:29
Cobalt	**9.74**	mg/Kg		8/23/2024 16:29
Copper	**132**	mg/Kg		8/23/2024 16:29
Iron	**85700**	mg/Kg		8/23/2024 16:44
Lead	**187**	mg/Kg		8/23/2024 16:29
Magnesium	**17400**	mg/Kg		8/23/2024 16:29
Manganese	**19100**	mg/Kg		8/23/2024 16:44
Nickel	**44.7**	mg/Kg		8/23/2024 16:29
Potassium	**597**	mg/Kg		8/23/2024 16:29
Selenium	< 3.04	mg/Kg		8/23/2024 16:29
Silver	< 1.52	mg/Kg		8/23/2024 16:29
Sodium	**849**	mg/Kg		8/23/2024 16:29
Thallium	< 3.80	mg/Kg		8/23/2024 16:29
Vanadium	**402**	mg/Kg		8/23/2024 16:29

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-1		
Lab Sample ID:	243844-01	**Date Sampled:** 8/20/2024	11:00
Matrix:	Soil	**Date Received** 8/21/2024	

Zinc		**699**	mg/Kg		8/23/2024 16:29
	Method Reference(s):	EPA 6010C EPA 3050B			
	Preparation Date:	8/22/2024			
	Data File:	240823A			

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.137	mg/Kg		8/23/2024 18:05
PCB-1221	< 0.137	mg/Kg		8/23/2024 18:05
PCB-1232	< 0.137	mg/Kg		8/23/2024 18:05
PCB-1242	< 0.137	mg/Kg		8/23/2024 18:05
PCB-1248	**0.490**	mg/Kg		8/23/2024 18:05
PCB-1254	**0.356**	mg/Kg		8/23/2024 18:05
PCB-1260	< 0.137	mg/Kg		8/23/2024 18:05
PCB-1262	< 0.137	mg/Kg		8/23/2024 18:05
PCB-1268	< 0.137	mg/Kg		8/23/2024 18:05

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**74.3**	16.1 - 102		8/23/2024 18:05

Method Reference(s):	EPA 8082A EPA 3546
Preparation Date:	8/22/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 606	ug/Kg		8/27/2024 18:22
1,2,4,5-Tetrachlorobenzene	< 606	ug/Kg		8/27/2024 18:22
1,2,4-Trichlorobenzene	< 606	ug/Kg		8/27/2024 18:22
1,2-Dichlorobenzene	< 606	ug/Kg		8/27/2024 18:22
1,3-Dichlorobenzene	< 606	ug/Kg		8/27/2024 18:22
1,4-Dichlorobenzene	< 606	ug/Kg		8/27/2024 18:22
2,2-Oxybis (1-chloropropane)	< 606	ug/Kg		8/27/2024 18:22
2,3,4,6-Tetrachlorophenol	< 606	ug/Kg		8/27/2024 18:22

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-1		
Lab Sample ID:	243844-01	**Date Sampled:** 8/20/2024	11:00
Matrix:	Soil	**Date Received** 8/21/2024	

2,4,5-Trichlorophenol	< 606	ug/Kg	8/27/2024 18:22
2,4,6-Trichlorophenol	< 606	ug/Kg	8/27/2024 18:22
2,4-Dichlorophenol	< 606	ug/Kg	8/27/2024 18:22
2,4-Dimethylphenol	< 606	ug/Kg	8/27/2024 18:22
2,4-Dinitrophenol	< 2430	ug/Kg	8/27/2024 18:22
2,4-Dinitrotoluene	< 606	ug/Kg	8/27/2024 18:22
2,6-Dinitrotoluene	< 606	ug/Kg	8/27/2024 18:22
2-Chloronaphthalene	< 606	ug/Kg	8/27/2024 18:22
2-Chlorophenol	< 606	ug/Kg	8/27/2024 18:22
2-Methylnapthalene	< 606	ug/Kg	8/27/2024 18:22
2-Methylphenol	< 606	ug/Kg	8/27/2024 18:22
2-Nitroaniline	< 606	ug/Kg	8/27/2024 18:22
2-Nitrophenol	< 606	ug/Kg	8/27/2024 18:22
3&4-Methylphenol	< 606	ug/Kg	8/27/2024 18:22
3,3'-Dichlorobenzidine	< 606	ug/Kg	8/27/2024 18:22
3-Nitroaniline	< 606	ug/Kg	8/27/2024 18:22
4,6-Dinitro-2-methylphenol	< 1210	ug/Kg	8/27/2024 18:22
4-Bromophenyl phenyl ether	< 606	ug/Kg	8/27/2024 18:22
4-Chloro-3-methylphenol	< 606	ug/Kg	8/27/2024 18:22
4-Chloroaniline	< 606	ug/Kg	8/27/2024 18:22
4-Chlorophenyl phenyl ether	< 606	ug/Kg	8/27/2024 18:22
4-Nitroaniline	< 606	ug/Kg	8/27/2024 18:22
4-Nitrophenol	< 606	ug/Kg	8/27/2024 18:22
Acenaphthene	**1930**	ug/Kg	8/27/2024 18:22
Acenaphthylene	< 606	ug/Kg	8/27/2024 18:22
Acetophenone	< 606	ug/Kg	8/27/2024 18:22
Anthracene	**2980**	ug/Kg	8/27/2024 18:22
Atrazine	< 606	ug/Kg	8/27/2024 18:22
Benzaldehyde	< 606	ug/Kg	8/27/2024 18:22
Benzo (a) anthracene	**8450**	ug/Kg	8/27/2024 18:22

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-1
Lab Sample ID: 243844-01 **Date Sampled:** 8/20/2024 11:00
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**9510**	ug/Kg	8/27/2024 18:22
Benzo (b) fluoranthene	**9770**	ug/Kg	8/27/2024 18:22
Benzo (g,h,i) perylene	**6210**	ug/Kg	8/27/2024 18:22
Benzo (k) fluoranthene	**7220**	ug/Kg	8/27/2024 18:22
Bis (2-chloroethoxy) methane	< 606	ug/Kg	8/27/2024 18:22
Bis (2-chloroethyl) ether	< 606	ug/Kg	8/27/2024 18:22
Bis (2-ethylhexyl) phthalate	< 606	ug/Kg	8/27/2024 18:22
Butylbenzylphthalate	< 606	ug/Kg	8/27/2024 18:22
Caprolactam	< 606	ug/Kg	8/27/2024 18:22
Carbazole	**1880**	ug/Kg	8/27/2024 18:22
Chrysene	**9970**	ug/Kg	8/27/2024 18:22
Dibenz (a,h) anthracene	**2220**	ug/Kg	8/27/2024 18:22
Dibenzofuran	**1010**	ug/Kg	8/27/2024 18:22
Diethyl phthalate	< 606	ug/Kg	8/27/2024 18:22
Dimethyl phthalate	< 606	ug/Kg	8/27/2024 18:22
Di-n-butyl phthalate	< 606	ug/Kg	8/27/2024 18:22
Di-n-octylphthalate	< 606	ug/Kg	8/27/2024 18:22
Fluoranthene	**22100**	ug/Kg	8/27/2024 18:22
Fluorene	**1890**	ug/Kg	8/27/2024 18:22
Hexachlorobenzene	< 606	ug/Kg	8/27/2024 18:22
Hexachlorobutadiene	< 606	ug/Kg	8/27/2024 18:22
Hexachlorocyclopentadiene	< 2430	ug/Kg	8/27/2024 18:22
Hexachloroethane	< 606	ug/Kg	8/27/2024 18:22
Indeno (1,2,3-cd) pyrene	**7120**	ug/Kg	8/27/2024 18:22
Isophorone	< 606	ug/Kg	8/27/2024 18:22
Naphthalene	< 606	ug/Kg	8/27/2024 18:22
Nitrobenzene	< 606	ug/Kg	8/27/2024 18:22
N-Nitroso-di-n-propylamine	< 606	ug/Kg	8/27/2024 18:22
N-Nitrosodiphenylamine	< 606	ug/Kg	8/27/2024 18:22
Pentachlorophenol	< 1210	ug/Kg	8/27/2024 18:22

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-1
Lab Sample ID: 243844-01 **Date Sampled:** 8/20/2024 11:00
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**17300**	ug/Kg		8/27/2024 18:22
Phenol	< 606	ug/Kg		8/27/2024 18:22
Pyrene	**18300**	ug/Kg		8/27/2024 18:22

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**75.0**	34.3 - 95.6		8/27/2024 18:22
2-Fluorobiphenyl	**73.0**	37.9 - 87.2		8/27/2024 18:22
2-Fluorophenol	**73.2**	34.4 - 80.5		8/27/2024 18:22
Nitrobenzene-d5	**70.1**	33.2 - 82.1		8/27/2024 18:22
Phenol-d5	**80.2**	36.4 - 85.4		8/27/2024 18:22
Terphenyl-d14	**83.2**	45.9 - 96		8/27/2024 18:22

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/22/2024
Data File: B73441.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-2		
Lab Sample ID:	243844-02	**Date Sampled:** 8/20/2024	11:10
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0262**	mg/Kg		8/26/2024 15:49

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**2240**	mg/Kg		8/23/2024 13:50
Antimony	< 2.94	mg/Kg		8/23/2024 13:50
Arsenic	**3.25**	mg/Kg		8/23/2024 13:50
Barium	**94.5**	mg/Kg		8/23/2024 13:50
Beryllium	< 0.245	mg/Kg		8/23/2024 13:50
Cadmium	**0.820**	mg/Kg		8/23/2024 13:50
Calcium	**228000**	mg/Kg		8/23/2024 15:40
Chromium	**31.0**	mg/Kg		8/23/2024 13:50
Cobalt	**3.75**	mg/Kg		8/23/2024 13:50
Copper	**36.1**	mg/Kg		8/23/2024 13:50
Iron	**15100**	mg/Kg		8/23/2024 13:50
Lead	**43.4**	mg/Kg		8/23/2024 13:50
Magnesium	**7790**	mg/Kg		8/23/2024 13:50
Manganese	**1100**	mg/Kg		8/23/2024 15:40
Nickel	**16.4**	mg/Kg		8/23/2024 13:50
Potassium	**970**	mg/Kg		8/23/2024 13:50
Selenium	< 0.982	mg/Kg		8/23/2024 13:50
Silver	< 0.491	mg/Kg		8/23/2024 13:50
Sodium	**396**	mg/Kg		8/23/2024 13:50
Thallium	< 1.23	mg/Kg		8/23/2024 13:50
Vanadium	**14.1**	mg/Kg		8/23/2024 13:50

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-2
Lab Sample ID: 243844-02 **Date Sampled:** 8/20/2024 11:10
Matrix: Soil **Date Received** 8/21/2024

Zinc	**84.2**	mg/Kg		8/23/2024 13:50

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1221	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1232	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1242	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1248	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1254	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1260	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1262	< 0.145	mg/Kg		8/23/2024 18:28
PCB-1268	< 0.145	mg/Kg		8/23/2024 18:28

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**77.2**	16.1 - 102		8/23/2024 18:28

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/22/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 282	ug/Kg		8/23/2024 17:48
1,2,4,5-Tetrachlorobenzene	< 282	ug/Kg		8/23/2024 17:48
1,2,4-Trichlorobenzene	< 282	ug/Kg		8/23/2024 17:48
1,2-Dichlorobenzene	< 282	ug/Kg		8/23/2024 17:48
1,3-Dichlorobenzene	< 282	ug/Kg		8/23/2024 17:48
1,4-Dichlorobenzene	< 282	ug/Kg		8/23/2024 17:48
2,2-Oxybis (1-chloropropane)	< 282	ug/Kg		8/23/2024 17:48
2,3,4,6-Tetrachlorophenol	< 282	ug/Kg		8/23/2024 17:48

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-2
Lab Sample ID: 243844-02 **Date Sampled:** 8/20/2024 11:10
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 282	ug/Kg	8/23/2024 17:48
2,4,6-Trichlorophenol	< 282	ug/Kg	8/23/2024 17:48
2,4-Dichlorophenol	< 282	ug/Kg	8/23/2024 17:48
2,4-Dimethylphenol	< 282	ug/Kg	8/23/2024 17:48
2,4-Dinitrophenol	< 1130	ug/Kg	8/23/2024 17:48
2,4-Dinitrotoluene	< 282	ug/Kg	8/23/2024 17:48
2,6-Dinitrotoluene	< 282	ug/Kg	8/23/2024 17:48
2-Chloronaphthalene	< 282	ug/Kg	8/23/2024 17:48
2-Chlorophenol	< 282	ug/Kg	8/23/2024 17:48
2-Methylnapthalene	**342**	ug/Kg	8/23/2024 17:48
2-Methylphenol	< 282	ug/Kg	8/23/2024 17:48
2-Nitroaniline	< 282	ug/Kg	8/23/2024 17:48
2-Nitrophenol	< 282	ug/Kg	8/23/2024 17:48
3&4-Methylphenol	< 282	ug/Kg	8/23/2024 17:48
3,3'-Dichlorobenzidine	< 282	ug/Kg	8/23/2024 17:48
3-Nitroaniline	< 282	ug/Kg	8/23/2024 17:48
4,6-Dinitro-2-methylphenol	< 563	ug/Kg	8/23/2024 17:48
4-Bromophenyl phenyl ether	< 282	ug/Kg	8/23/2024 17:48
4-Chloro-3-methylphenol	< 282	ug/Kg	8/23/2024 17:48
4-Chloroaniline	< 282	ug/Kg	8/23/2024 17:48
4-Chlorophenyl phenyl ether	< 282	ug/Kg	8/23/2024 17:48
4-Nitroaniline	< 282	ug/Kg	8/23/2024 17:48
4-Nitrophenol	< 282	ug/Kg	8/23/2024 17:48
Acenaphthene	< 282	ug/Kg	8/23/2024 17:48
Acenaphthylene	< 282	ug/Kg	8/23/2024 17:48
Acetophenone	< 282	ug/Kg	8/23/2024 17:48
Anthracene	**375**	ug/Kg	8/23/2024 17:48
Atrazine	< 282	ug/Kg	8/23/2024 17:48
Benzaldehyde	< 282	ug/Kg	8/23/2024 17:48
Benzo (a) anthracene	**2800**	ug/Kg	8/23/2024 17:48

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-2
Lab Sample ID: 243844-02 **Date Sampled:** 8/20/2024 11:10
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**4600**	ug/Kg	8/23/2024 17:48
Benzo (b) fluoranthene	**4170**	ug/Kg	8/23/2024 17:48
Benzo (g,h,i) perylene	**3310**	ug/Kg	8/23/2024 17:48
Benzo (k) fluoranthene	**3110**	ug/Kg	8/23/2024 17:48
Bis (2-chloroethoxy) methane	< 282	ug/Kg	8/23/2024 17:48
Bis (2-chloroethyl) ether	< 282	ug/Kg	8/23/2024 17:48
Bis (2-ethylhexyl) phthalate	< 282	ug/Kg	8/23/2024 17:48
Butylbenzylphthalate	< 282	ug/Kg	8/23/2024 17:48
Caprolactam	< 282	ug/Kg	8/23/2024 17:48
Carbazole	**319**	ug/Kg	8/23/2024 17:48
Chrysene	**3980**	ug/Kg	8/23/2024 17:48
Dibenz (a,h) anthracene	**1090**	ug/Kg	8/23/2024 17:48
Dibenzofuran	< 282	ug/Kg	8/23/2024 17:48
Diethyl phthalate	< 282	ug/Kg	8/23/2024 17:48
Dimethyl phthalate	< 282	ug/Kg	8/23/2024 17:48
Di-n-butyl phthalate	< 282	ug/Kg	8/23/2024 17:48
Di-n-octylphthalate	< 282	ug/Kg	8/23/2024 17:48
Fluoranthene	**4360**	ug/Kg	8/23/2024 17:48
Fluorene	< 282	ug/Kg	8/23/2024 17:48
Hexachlorobenzene	< 282	ug/Kg	8/23/2024 17:48
Hexachlorobutadiene	< 282	ug/Kg	8/23/2024 17:48
Hexachlorocyclopentadiene	< 1130	ug/Kg	8/23/2024 17:48
Hexachloroethane	< 282	ug/Kg	8/23/2024 17:48
Indeno (1,2,3-cd) pyrene	**3360**	ug/Kg	8/23/2024 17:48
Isophorone	< 282	ug/Kg	8/23/2024 17:48
Naphthalene	< 282	ug/Kg	8/23/2024 17:48
Nitrobenzene	< 282	ug/Kg	8/23/2024 17:48
N-Nitroso-di-n-propylamine	< 282	ug/Kg	8/23/2024 17:48
N-Nitrosodiphenylamine	< 282	ug/Kg	8/23/2024 17:48
Pentachlorophenol	< 563	ug/Kg	8/23/2024 17:48

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-2
Lab Sample ID: 243844-02 **Date Sampled:** 8/20/2024 11:10
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**2310**	ug/Kg		8/23/2024 17:48
Phenol	< 282	ug/Kg		8/23/2024 17:48
Pyrene	**4930**	ug/Kg		8/23/2024 17:48

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**67.1**	34.3 - 95.6		8/23/2024 17:48
2-Fluorobiphenyl	**69.2**	37.9 - 87.2		8/23/2024 17:48
2-Fluorophenol	**66.4**	34.4 - 80.5		8/23/2024 17:48
Nitrobenzene-d5	**64.0**	33.2 - 82.1		8/23/2024 17:48
Phenol-d5	**71.1**	36.4 - 85.4		8/23/2024 17:48
Terphenyl-d14	**76.8**	45.9 - 96		8/23/2024 17:48

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/22/2024
Data File: B73391.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-3		
Lab Sample ID:	243844-03	**Date Sampled:** 8/20/2024	11:20
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.118**	mg/Kg		8/26/2024 15:51

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**2110**	mg/Kg		8/23/2024 13:54
Antimony	< 3.22	mg/Kg		8/23/2024 13:54
Arsenic	**5.81**	mg/Kg		8/23/2024 13:54
Barium	**255**	mg/Kg		8/23/2024 13:54
Beryllium	< 0.268	mg/Kg		8/23/2024 13:54
Cadmium	**1.75**	mg/Kg		8/23/2024 13:54
Calcium	**240000**	mg/Kg		8/23/2024 15:44
Chromium	**83.5**	mg/Kg		8/23/2024 13:54
Cobalt	**4.55**	mg/Kg		8/23/2024 13:54
Copper	**94.9**	mg/Kg		8/23/2024 13:54
Iron	**41700**	mg/Kg		8/23/2024 15:44
Lead	**98.9**	mg/Kg		8/23/2024 13:54
Magnesium	**7150**	mg/Kg		8/23/2024 13:54
Manganese	**1470**	mg/Kg		8/23/2024 15:44
Nickel	**33.2**	mg/Kg		8/23/2024 13:54
Potassium	**584**	mg/Kg		8/23/2024 13:54
Selenium	< 1.07	mg/Kg		8/23/2024 13:54
Silver	< 0.537	mg/Kg		8/23/2024 13:54
Sodium	**427**	mg/Kg		8/23/2024 13:54
Thallium	< 1.34	mg/Kg		8/23/2024 13:54
Vanadium	**19.4**	mg/Kg		8/23/2024 13:54

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-3		
Lab Sample ID:	243844-03	**Date Sampled:** 8/20/2024	11:20
Matrix:	Soil	**Date Received** 8/21/2024	

Zinc		**172**	mg/Kg		8/23/2024 13:54
	Method Reference(s):	EPA 6010C EPA 3050B			
	Preparation Date:	8/22/2024			
	Data File:	240823A			

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1221	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1232	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1242	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1248	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1254	**0.218**	mg/Kg		8/23/2024 18:51
PCB-1260	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1262	< 0.156	mg/Kg		8/23/2024 18:51
PCB-1268	< 0.156	mg/Kg		8/23/2024 18:51

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**84.6**	16.1 - 102		8/23/2024 18:51

Method Reference(s):	EPA 8082A EPA 3546
Preparation Date:	8/22/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 1140	ug/Kg		8/28/2024 12:52
1,2,4,5-Tetrachlorobenzene	< 1140	ug/Kg		8/28/2024 12:52
1,2,4-Trichlorobenzene	< 1140	ug/Kg		8/28/2024 12:52
1,2-Dichlorobenzene	< 1140	ug/Kg		8/28/2024 12:52
1,3-Dichlorobenzene	< 1140	ug/Kg		8/28/2024 12:52
1,4-Dichlorobenzene	< 1140	ug/Kg		8/28/2024 12:52
2,2-Oxybis (1-chloropropane)	< 1140	ug/Kg		8/28/2024 12:52
2,3,4,6-Tetrachlorophenol	< 1140	ug/Kg		8/28/2024 12:52

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-3		
Lab Sample ID:	243844-03	**Date Sampled:** 8/20/2024	11:20
Matrix:	Soil	**Date Received** 8/21/2024	

2,4,5-Trichlorophenol	< 1140	ug/Kg	8/28/2024	12:52
2,4,6-Trichlorophenol	< 1140	ug/Kg	8/28/2024	12:52
2,4-Dichlorophenol	< 1140	ug/Kg	8/28/2024	12:52
2,4-Dimethylphenol	< 1140	ug/Kg	8/28/2024	12:52
2,4-Dinitrophenol	< 4560	ug/Kg	8/28/2024	12:52
2,4-Dinitrotoluene	< 1140	ug/Kg	8/28/2024	12:52
2,6-Dinitrotoluene	< 1140	ug/Kg	8/28/2024	12:52
2-Chloronaphthalene	< 1140	ug/Kg	8/28/2024	12:52
2-Chlorophenol	< 1140	ug/Kg	8/28/2024	12:52
2-Methylnapthalene	< 1140	ug/Kg	8/28/2024	12:52
2-Methylphenol	< 1140	ug/Kg	8/28/2024	12:52
2-Nitroaniline	< 1140	ug/Kg	8/28/2024	12:52
2-Nitrophenol	< 1140	ug/Kg	8/28/2024	12:52
3&4-Methylphenol	< 1140	ug/Kg	8/28/2024	12:52
3,3'-Dichlorobenzidine	< 1140	ug/Kg	8/28/2024	12:52
3-Nitroaniline	< 1140	ug/Kg	8/28/2024	12:52
4,6-Dinitro-2-methylphenol	< 2280	ug/Kg	8/28/2024	12:52
4-Bromophenyl phenyl ether	< 1140	ug/Kg	8/28/2024	12:52
4-Chloro-3-methylphenol	< 1140	ug/Kg	8/28/2024	12:52
4-Chloroaniline	< 1140	ug/Kg	8/28/2024	12:52
4-Chlorophenyl phenyl ether	< 1140	ug/Kg	8/28/2024	12:52
4-Nitroaniline	< 1140	ug/Kg	8/28/2024	12:52
4-Nitrophenol	< 1140	ug/Kg	8/28/2024	12:52
Acenaphthene	< 1140	ug/Kg	8/28/2024	12:52
Acenaphthylene	< 1140	ug/Kg	8/28/2024	12:52
Acetophenone	< 1140	ug/Kg	8/28/2024	12:52
Anthracene	**1140**	ug/Kg	8/28/2024	12:52
Atrazine	< 1140	ug/Kg	8/28/2024	12:52
Benzaldehyde	< 1140	ug/Kg	8/28/2024	12:52
Benzo (a) anthracene	**14900**	ug/Kg	8/28/2024	12:52

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-3		
Lab Sample ID:	243844-03	**Date Sampled:** 8/20/2024	11:20
Matrix:	Soil	**Date Received** 8/21/2024	

Benzo (a) pyrene	**23600**	ug/Kg	8/28/2024	12:52
Benzo (b) fluoranthene	**22300**	ug/Kg	8/28/2024	12:52
Benzo (g,h,i) perylene	**16000**	ug/Kg	8/28/2024	12:52
Benzo (k) fluoranthene	**15600**	ug/Kg	8/28/2024	12:52
Bis (2-chloroethoxy) methane	< 1140	ug/Kg	8/28/2024	12:52
Bis (2-chloroethyl) ether	< 1140	ug/Kg	8/28/2024	12:52
Bis (2-ethylhexyl) phthalate	< 1140	ug/Kg	8/28/2024	12:52
Butylbenzylphthalate	< 1140	ug/Kg	8/28/2024	12:52
Caprolactam	< 1140	ug/Kg	8/28/2024	12:52
Carbazole	< 1140	ug/Kg	8/28/2024	12:52
Chrysene	**19400**	ug/Kg	8/28/2024	12:52
Dibenz (a,h) anthracene	**5550**	ug/Kg	8/28/2024	12:52
Dibenzofuran	< 1140	ug/Kg	8/28/2024	12:52
Diethyl phthalate	< 1140	ug/Kg	8/28/2024	12:52
Dimethyl phthalate	< 1140	ug/Kg	8/28/2024	12:52
Di-n-butyl phthalate	< 1140	ug/Kg	8/28/2024	12:52
Di-n-octylphthalate	< 1140	ug/Kg	8/28/2024	12:52
Fluoranthene	**17900**	ug/Kg	8/28/2024	12:52
Fluorene	< 1140	ug/Kg	8/28/2024	12:52
Hexachlorobenzene	< 1140	ug/Kg	8/28/2024	12:52
Hexachlorobutadiene	< 1140	ug/Kg	8/28/2024	12:52
Hexachlorocyclopentadiene	< 4560	ug/Kg	8/28/2024	12:52
Hexachloroethane	< 1140	ug/Kg	8/28/2024	12:52
Indeno (1,2,3-cd) pyrene	**15900**	ug/Kg	8/28/2024	12:52
Isophorone	< 1140	ug/Kg	8/28/2024	12:52
Naphthalene	< 1140	ug/Kg	8/28/2024	12:52
Nitrobenzene	< 1140	ug/Kg	8/28/2024	12:52
N-Nitroso-di-n-propylamine	< 1140	ug/Kg	8/28/2024	12:52
N-Nitrosodiphenylamine	< 1140	ug/Kg	8/28/2024	12:52
Pentachlorophenol	< 2280	ug/Kg	8/28/2024	12:52

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-3
Lab Sample ID: 243844-03 **Date Sampled:** 8/20/2024 11:20
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**6500**	ug/Kg		8/28/2024 12:52
Phenol	< 1140	ug/Kg		8/28/2024 12:52
Pyrene	**20800**	ug/Kg		8/28/2024 12:52

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**72.3**	34.3 - 95.6		8/28/2024 12:52
2-Fluorobiphenyl	**74.9**	37.9 - 87.2		8/28/2024 12:52
2-Fluorophenol	**75.7**	34.4 - 80.5		8/28/2024 12:52
Nitrobenzene-d5	**72.2**	33.2 - 82.1		8/28/2024 12:52
Phenol-d5	**81.7**	36.4 - 85.4		8/28/2024 12:52
Terphenyl-d14	**83.7**	45.9 - 96		8/28/2024 12:52

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/22/2024
Data File: B73479.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-4		
Lab Sample ID:	243844-04	**Date Sampled:** 8/20/2024	11:30
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0561**	mg/Kg		8/26/2024 15:53

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**7320**	mg/Kg		8/23/2024 13:58
Antimony	< 3.35	mg/Kg		8/23/2024 13:58
Arsenic	**9.07**	mg/Kg		8/23/2024 13:58
Barium	**124**	mg/Kg		8/23/2024 13:58
Beryllium	**0.575**	mg/Kg		8/23/2024 13:58
Cadmium	**2.64**	mg/Kg		8/23/2024 13:58
Calcium	**179000**	mg/Kg		8/23/2024 15:47
Chromium	**94.9**	mg/Kg		8/23/2024 13:58
Cobalt	**6.32**	mg/Kg		8/23/2024 13:58
Copper	**196**	mg/Kg		8/23/2024 13:58
Iron	**56000**	mg/Kg		8/23/2024 15:47
Lead	**101**	mg/Kg		8/23/2024 13:58
Magnesium	**17800**	mg/Kg		8/23/2024 13:58
Manganese	**1380**	mg/Kg		8/23/2024 15:47
Nickel	**64.2**	mg/Kg		8/23/2024 13:58
Potassium	**895**	mg/Kg		8/23/2024 13:58
Selenium	< 1.12	mg/Kg		8/23/2024 13:58
Silver	< 0.558	mg/Kg		8/23/2024 13:58
Sodium	**568**	mg/Kg		8/23/2024 13:58
Thallium	< 1.40	mg/Kg		8/23/2024 13:58
Vanadium	**16.4**	mg/Kg		8/23/2024 13:58

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-4
Lab Sample ID: 243844-04 **Date Sampled:** 8/20/2024 11:30
Matrix: Soil **Date Received** 8/21/2024

Zinc	**222**	mg/Kg		8/23/2024 13:58

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.125	mg/Kg		8/23/2024 19:14
PCB-1221	< 0.125	mg/Kg		8/23/2024 19:14
PCB-1232	< 0.125	mg/Kg		8/23/2024 19:14
PCB-1242	< 0.125	mg/Kg		8/23/2024 19:14
PCB-1248	**0.172**	mg/Kg		8/23/2024 19:14
PCB-1254	**0.223**	mg/Kg		8/23/2024 19:14
PCB-1260	< 0.125	mg/Kg		8/23/2024 19:14
PCB-1262	< 0.125	mg/Kg		8/23/2024 19:14
PCB-1268	< 0.125	mg/Kg		8/23/2024 19:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**73.7**	16.1 - 102		8/23/2024 19:14

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/22/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 578	ug/Kg		8/27/2024 22:15
1,2,4,5-Tetrachlorobenzene	< 578	ug/Kg		8/27/2024 22:15
1,2,4-Trichlorobenzene	< 578	ug/Kg		8/27/2024 22:15
1,2-Dichlorobenzene	< 578	ug/Kg		8/27/2024 22:15
1,3-Dichlorobenzene	< 578	ug/Kg		8/27/2024 22:15
1,4-Dichlorobenzene	< 578	ug/Kg		8/27/2024 22:15
2,2-Oxybis (1-chloropropane)	< 578	ug/Kg		8/27/2024 22:15
2,3,4,6-Tetrachlorophenol	< 578	ug/Kg		8/27/2024 22:15

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-4
Lab Sample ID: 243844-04 **Date Sampled:** 8/20/2024 11:30
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 578	ug/Kg	8/27/2024 22:15
2,4,6-Trichlorophenol	< 578	ug/Kg	8/27/2024 22:15
2,4-Dichlorophenol	< 578	ug/Kg	8/27/2024 22:15
2,4-Dimethylphenol	< 578	ug/Kg	8/27/2024 22:15
2,4-Dinitrophenol	< 2310	ug/Kg	8/27/2024 22:15
2,4-Dinitrotoluene	< 578	ug/Kg	8/27/2024 22:15
2,6-Dinitrotoluene	< 578	ug/Kg	8/27/2024 22:15
2-Chloronaphthalene	< 578	ug/Kg	8/27/2024 22:15
2-Chlorophenol	< 578	ug/Kg	8/27/2024 22:15
2-Methylnapthalene	< 578	ug/Kg	8/27/2024 22:15
2-Methylphenol	< 578	ug/Kg	8/27/2024 22:15
2-Nitroaniline	< 578	ug/Kg	8/27/2024 22:15
2-Nitrophenol	< 578	ug/Kg	8/27/2024 22:15
3&4-Methylphenol	< 578	ug/Kg	8/27/2024 22:15
3,3'-Dichlorobenzidine	< 578	ug/Kg	8/27/2024 22:15
3-Nitroaniline	< 578	ug/Kg	8/27/2024 22:15
4,6-Dinitro-2-methylphenol	< 1160	ug/Kg	8/27/2024 22:15
4-Bromophenyl phenyl ether	< 578	ug/Kg	8/27/2024 22:15
4-Chloro-3-methylphenol	< 578	ug/Kg	8/27/2024 22:15
4-Chloroaniline	< 578	ug/Kg	8/27/2024 22:15
4-Chlorophenyl phenyl ether	< 578	ug/Kg	8/27/2024 22:15
4-Nitroaniline	< 578	ug/Kg	8/27/2024 22:15
4-Nitrophenol	< 578	ug/Kg	8/27/2024 22:15
Acenaphthene	**1310**	ug/Kg	8/27/2024 22:15
Acenaphthylene	< 578	ug/Kg	8/27/2024 22:15
Acetophenone	< 578	ug/Kg	8/27/2024 22:15
Anthracene	**2080**	ug/Kg	8/27/2024 22:15
Atrazine	< 578	ug/Kg	8/27/2024 22:15
Benzaldehyde	< 578	ug/Kg	8/27/2024 22:15
Benzo (a) anthracene	**5820**	ug/Kg	8/27/2024 22:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-4
Lab Sample ID: 243844-04 **Date Sampled:** 8/20/2024 11:30
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**6650**	ug/Kg	8/27/2024 22:15
Benzo (b) fluoranthene	**7090**	ug/Kg	8/27/2024 22:15
Benzo (g,h,i) perylene	**4470**	ug/Kg	8/27/2024 22:15
Benzo (k) fluoranthene	**4640**	ug/Kg	8/27/2024 22:15
Bis (2-chloroethoxy) methane	< 578	ug/Kg	8/27/2024 22:15
Bis (2-chloroethyl) ether	< 578	ug/Kg	8/27/2024 22:15
Bis (2-ethylhexyl) phthalate	< 578	ug/Kg	8/27/2024 22:15
Butylbenzylphthalate	< 578	ug/Kg	8/27/2024 22:15
Caprolactam	< 578	ug/Kg	8/27/2024 22:15
Carbazole	**1380**	ug/Kg	8/27/2024 22:15
Chrysene	**6640**	ug/Kg	8/27/2024 22:15
Dibenz (a,h) anthracene	**1500**	ug/Kg	8/27/2024 22:15
Dibenzofuran	**599**	ug/Kg	8/27/2024 22:15
Diethyl phthalate	< 578	ug/Kg	8/27/2024 22:15
Dimethyl phthalate	< 578	ug/Kg	8/27/2024 22:15
Di-n-butyl phthalate	< 578	ug/Kg	8/27/2024 22:15
Di-n-octylphthalate	< 578	ug/Kg	8/27/2024 22:15
Fluoranthene	**12700**	ug/Kg	8/27/2024 22:15
Fluorene	**953**	ug/Kg	8/27/2024 22:15
Hexachlorobenzene	< 578	ug/Kg	8/27/2024 22:15
Hexachlorobutadiene	< 578	ug/Kg	8/27/2024 22:15
Hexachlorocyclopentadiene	< 2310	ug/Kg	8/27/2024 22:15
Hexachloroethane	< 578	ug/Kg	8/27/2024 22:15
Indeno (1,2,3-cd) pyrene	**4950**	ug/Kg	8/27/2024 22:15
Isophorone	< 578	ug/Kg	8/27/2024 22:15
Naphthalene	**655**	ug/Kg	8/27/2024 22:15
Nitrobenzene	< 578	ug/Kg	8/27/2024 22:15
N-Nitroso-di-n-propylamine	< 578	ug/Kg	8/27/2024 22:15
N-Nitrosodiphenylamine	< 578	ug/Kg	8/27/2024 22:15
Pentachlorophenol	< 1160	ug/Kg	8/27/2024 22:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-4
Lab Sample ID: 243844-04 **Date Sampled:** 8/20/2024 11:30
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**8990**	ug/Kg		8/27/2024 22:15
Phenol	< 578	ug/Kg		8/27/2024 22:15
Pyrene	**11100**	ug/Kg		8/27/2024 22:15

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**58.8**	34.3 - 95.6		8/27/2024 22:15
2-Fluorobiphenyl	**57.0**	37.9 - 87.2		8/27/2024 22:15
2-Fluorophenol	**57.0**	34.4 - 80.5		8/27/2024 22:15
Nitrobenzene-d5	**53.9**	33.2 - 82.1		8/27/2024 22:15
Phenol-d5	**62.5**	36.4 - 85.4		8/27/2024 22:15
Terphenyl-d14	**63.9**	45.9 - 96		8/27/2024 22:15

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/22/2024
Data File: B73449.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-5		
Lab Sample ID:	243844-05	**Date Sampled:** 8/20/2024	11:35
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0135**	mg/Kg		8/26/2024 15:55

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**2740**	mg/Kg		8/23/2024 14:01
Antimony	< 3.20	mg/Kg		8/23/2024 14:01
Arsenic	**7.67**	mg/Kg		8/23/2024 14:01
Barium	**20.8**	mg/Kg		8/23/2024 14:01
Beryllium	< 0.267	mg/Kg		8/23/2024 14:01
Cadmium	**0.475**	mg/Kg		8/23/2024 14:01
Calcium	**193000**	mg/Kg		8/23/2024 15:50
Chromium	**11.8**	mg/Kg		8/23/2024 14:01
Cobalt	**2.73**	mg/Kg		8/23/2024 14:01
Copper	**24.2**	mg/Kg		8/23/2024 14:01
Iron	**9590**	mg/Kg		8/23/2024 14:01
Lead	**24.1**	mg/Kg		8/23/2024 14:01
Magnesium	**9340**	mg/Kg		8/23/2024 14:01
Manganese	**147**	mg/Kg		8/23/2024 14:01
Nickel	**16.3**	mg/Kg		8/23/2024 14:01
Potassium	**1100**	mg/Kg		8/23/2024 14:01
Selenium	< 1.07	mg/Kg		8/23/2024 14:01
Silver	< 0.533	mg/Kg		8/23/2024 14:01
Sodium	**250**	mg/Kg		8/23/2024 14:01
Thallium	< 1.33	mg/Kg		8/23/2024 14:01
Vanadium	**7.35**	mg/Kg		8/23/2024 14:01

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-5
Lab Sample ID: 243844-05 **Date Sampled:** 8/20/2024 11:35
Matrix: Soil **Date Received** 8/21/2024

Zinc	**55.0**	mg/Kg		8/23/2024 14:01

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1221	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1232	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1242	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1248	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1254	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1260	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1262	< 0.164	mg/Kg		8/23/2024 19:37
PCB-1268	< 0.164	mg/Kg		8/23/2024 19:37

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**94.8**	16.1 - 102		8/23/2024 19:37

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/22/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 297	ug/Kg		8/23/2024 19:15
1,2,4,5-Tetrachlorobenzene	< 297	ug/Kg		8/23/2024 19:15
1,2,4-Trichlorobenzene	< 297	ug/Kg		8/23/2024 19:15
1,2-Dichlorobenzene	< 297	ug/Kg		8/23/2024 19:15
1,3-Dichlorobenzene	< 297	ug/Kg		8/23/2024 19:15
1,4-Dichlorobenzene	< 297	ug/Kg		8/23/2024 19:15
2,2-Oxybis (1-chloropropane)	< 297	ug/Kg		8/23/2024 19:15
2,3,4,6-Tetrachlorophenol	< 297	ug/Kg		8/23/2024 19:15

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-5
Lab Sample ID: 243844-05 **Date Sampled:** 8/20/2024 11:35
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 297	ug/Kg	8/23/2024 19:15
2,4,6-Trichlorophenol	< 297	ug/Kg	8/23/2024 19:15
2,4-Dichlorophenol	< 297	ug/Kg	8/23/2024 19:15
2,4-Dimethylphenol	< 297	ug/Kg	8/23/2024 19:15
2,4-Dinitrophenol	< 1190	ug/Kg	8/23/2024 19:15
2,4-Dinitrotoluene	< 297	ug/Kg	8/23/2024 19:15
2,6-Dinitrotoluene	< 297	ug/Kg	8/23/2024 19:15
2-Chloronaphthalene	< 297	ug/Kg	8/23/2024 19:15
2-Chlorophenol	< 297	ug/Kg	8/23/2024 19:15
2-Methylnapthalene	< 297	ug/Kg	8/23/2024 19:15
2-Methylphenol	< 297	ug/Kg	8/23/2024 19:15
2-Nitroaniline	< 297	ug/Kg	8/23/2024 19:15
2-Nitrophenol	< 297	ug/Kg	8/23/2024 19:15
3&4-Methylphenol	< 297	ug/Kg	8/23/2024 19:15
3,3'-Dichlorobenzidine	< 297	ug/Kg	8/23/2024 19:15
3-Nitroaniline	< 297	ug/Kg	8/23/2024 19:15
4,6-Dinitro-2-methylphenol	< 594	ug/Kg	8/23/2024 19:15
4-Bromophenyl phenyl ether	< 297	ug/Kg	8/23/2024 19:15
4-Chloro-3-methylphenol	< 297	ug/Kg	8/23/2024 19:15
4-Chloroaniline	< 297	ug/Kg	8/23/2024 19:15
4-Chlorophenyl phenyl ether	< 297	ug/Kg	8/23/2024 19:15
4-Nitroaniline	< 297	ug/Kg	8/23/2024 19:15
4-Nitrophenol	< 297	ug/Kg	8/23/2024 19:15
Acenaphthene	< 297	ug/Kg	8/23/2024 19:15
Acenaphthylene	< 297	ug/Kg	8/23/2024 19:15
Acetophenone	< 297	ug/Kg	8/23/2024 19:15
Anthracene	< 297	ug/Kg	8/23/2024 19:15
Atrazine	< 297	ug/Kg	8/23/2024 19:15
Benzaldehyde	< 297	ug/Kg	8/23/2024 19:15
Benzo (a) anthracene	**447**	ug/Kg	8/23/2024 19:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-5		
Lab Sample ID:	243844-05	**Date Sampled:** 8/20/2024	11:35
Matrix:	Soil	**Date Received** 8/21/2024	

Benzo (a) pyrene	**741**	ug/Kg	8/23/2024	19:15
Benzo (b) fluoranthene	**739**	ug/Kg	8/23/2024	19:15
Benzo (g,h,i) perylene	**508**	ug/Kg	8/23/2024	19:15
Benzo (k) fluoranthene	**426**	ug/Kg	8/23/2024	19:15
Bis (2-chloroethoxy) methane	< 297	ug/Kg	8/23/2024	19:15
Bis (2-chloroethyl) ether	< 297	ug/Kg	8/23/2024	19:15
Bis (2-ethylhexyl) phthalate	< 297	ug/Kg	8/23/2024	19:15
Butylbenzylphthalate	< 297	ug/Kg	8/23/2024	19:15
Caprolactam	< 297	ug/Kg	8/23/2024	19:15
Carbazole	< 297	ug/Kg	8/23/2024	19:15
Chrysene	**656**	ug/Kg	8/23/2024	19:15
Dibenz (a,h) anthracene	< 297	ug/Kg	8/23/2024	19:15
Dibenzofuran	< 297	ug/Kg	8/23/2024	19:15
Diethyl phthalate	< 297	ug/Kg	8/23/2024	19:15
Dimethyl phthalate	< 297	ug/Kg	8/23/2024	19:15
Di-n-butyl phthalate	< 297	ug/Kg	8/23/2024	19:15
Di-n-octylphthalate	< 297	ug/Kg	8/23/2024	19:15
Fluoranthene	**534**	ug/Kg	8/23/2024	19:15
Fluorene	< 297	ug/Kg	8/23/2024	19:15
Hexachlorobenzene	< 297	ug/Kg	8/23/2024	19:15
Hexachlorobutadiene	< 297	ug/Kg	8/23/2024	19:15
Hexachlorocyclopentadiene	< 1190	ug/Kg	8/23/2024	19:15
Hexachloroethane	< 297	ug/Kg	8/23/2024	19:15
Indeno (1,2,3-cd) pyrene	**506**	ug/Kg	8/23/2024	19:15
Isophorone	< 297	ug/Kg	8/23/2024	19:15
Naphthalene	< 297	ug/Kg	8/23/2024	19:15
Nitrobenzene	< 297	ug/Kg	8/23/2024	19:15
N-Nitroso-di-n-propylamine	< 297	ug/Kg	8/23/2024	19:15
N-Nitrosodiphenylamine	< 297	ug/Kg	8/23/2024	19:15
Pentachlorophenol	< 594	ug/Kg	8/23/2024	19:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-5
Lab Sample ID: 243844-05 **Date Sampled:** 8/20/2024 11:35
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	< 297	ug/Kg		8/23/2024 19:15
Phenol	< 297	ug/Kg		8/23/2024 19:15
Pyrene	**661**	ug/Kg		8/23/2024 19:15

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**77.8**	34.3 - 95.6		8/23/2024 19:15
2-Fluorobiphenyl	**79.9**	37.9 - 87.2		8/23/2024 19:15
2-Fluorophenol	**75.6**	34.4 - 80.5		8/23/2024 19:15
Nitrobenzene-d5	**73.6**	33.2 - 82.1		8/23/2024 19:15
Phenol-d5	**77.4**	36.4 - 85.4		8/23/2024 19:15
Terphenyl-d14	**85.4**	45.9 - 96		8/23/2024 19:15

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/22/2024
Data File: B73394.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-6		
Lab Sample ID:	243844-06	**Date Sampled:** 8/20/2024	11:40
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0129**	mg/Kg		8/26/2024 15:57

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**1410**	mg/Kg		8/23/2024 15:54
Antimony	< 5.71	mg/Kg		8/23/2024 15:54
Arsenic	**3.09**	mg/Kg		8/23/2024 15:54
Barium	**83.2**	mg/Kg		8/23/2024 15:54
Beryllium	< 0.476	mg/Kg		8/23/2024 15:54
Cadmium	< 0.476	mg/Kg		8/23/2024 15:54
Calcium	**256000**	mg/Kg		8/23/2024 16:35
Chromium	**9.84**	mg/Kg		8/23/2024 15:54
Cobalt	< 4.76	mg/Kg		8/23/2024 15:54
Copper	**13.5**	mg/Kg		8/23/2024 15:54
Iron	**8670**	mg/Kg		8/23/2024 15:54
Lead	**7.07**	mg/Kg		8/23/2024 15:54
Magnesium	**8510**	mg/Kg		8/23/2024 15:54
Manganese	**270**	mg/Kg		8/23/2024 15:54
Nickel	**7.92**	mg/Kg		8/23/2024 15:54
Potassium	**607**	mg/Kg		8/23/2024 15:54
Selenium	< 1.90	mg/Kg		8/23/2024 15:54
Silver	< 0.952	mg/Kg		8/23/2024 15:54
Sodium	**270**	mg/Kg		8/23/2024 15:54
Thallium	< 2.38	mg/Kg		8/23/2024 15:54
Vanadium	**4.42**	mg/Kg		8/23/2024 15:54

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Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-6
Lab Sample ID: 243844-06 **Date Sampled:** 8/20/2024 11:40
Matrix: Soil **Date Received** 8/21/2024

Zinc	**24.1**	mg/Kg		8/23/2024 15:54

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1221	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1232	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1242	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1248	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1254	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1260	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1262	< 0.165	mg/Kg		8/23/2024 20:01
PCB-1268	< 0.165	mg/Kg		8/23/2024 20:01

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**81.8**	16.1 - 102		8/23/2024 20:01

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/22/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 279	ug/Kg		8/27/2024 12:59
1,2,4,5-Tetrachlorobenzene	< 279	ug/Kg		8/27/2024 12:59
1,2,4-Trichlorobenzene	< 279	ug/Kg		8/27/2024 12:59
1,2-Dichlorobenzene	< 279	ug/Kg		8/27/2024 12:59
1,3-Dichlorobenzene	< 279	ug/Kg		8/27/2024 12:59
1,4-Dichlorobenzene	< 279	ug/Kg		8/27/2024 12:59
2,2-Oxybis (1-chloropropane)	< 279	ug/Kg		8/27/2024 12:59
2,3,4,6-Tetrachlorophenol	< 279	ug/Kg		8/27/2024 12:59

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-6
Lab Sample ID: 243844-06 **Date Sampled:** 8/20/2024 11:40
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 279	ug/Kg	8/27/2024 12:59
2,4,6-Trichlorophenol	< 279	ug/Kg	8/27/2024 12:59
2,4-Dichlorophenol	< 279	ug/Kg	8/27/2024 12:59
2,4-Dimethylphenol	< 279	ug/Kg	8/27/2024 12:59
2,4-Dinitrophenol	< 1120	ug/Kg	8/27/2024 12:59
2,4-Dinitrotoluene	< 279	ug/Kg	8/27/2024 12:59
2,6-Dinitrotoluene	< 279	ug/Kg	8/27/2024 12:59
2-Chloronaphthalene	< 279	ug/Kg	8/27/2024 12:59
2-Chlorophenol	< 279	ug/Kg	8/27/2024 12:59
2-Methylnapthalene	< 279	ug/Kg	8/27/2024 12:59
2-Methylphenol	< 279	ug/Kg	8/27/2024 12:59
2-Nitroaniline	< 279	ug/Kg	8/27/2024 12:59
2-Nitrophenol	< 279	ug/Kg	8/27/2024 12:59
3&4-Methylphenol	< 279	ug/Kg	8/27/2024 12:59
3,3'-Dichlorobenzidine	< 279	ug/Kg	8/27/2024 12:59
3-Nitroaniline	< 279	ug/Kg	8/27/2024 12:59
4,6-Dinitro-2-methylphenol	< 559	ug/Kg	8/27/2024 12:59
4-Bromophenyl phenyl ether	< 279	ug/Kg	8/27/2024 12:59
4-Chloro-3-methylphenol	< 279	ug/Kg	8/27/2024 12:59
4-Chloroaniline	< 279	ug/Kg	8/27/2024 12:59
4-Chlorophenyl phenyl ether	< 279	ug/Kg	8/27/2024 12:59
4-Nitroaniline	< 279	ug/Kg	8/27/2024 12:59
4-Nitrophenol	< 279	ug/Kg	8/27/2024 12:59
Acenaphthene	< 279	ug/Kg	8/27/2024 12:59
Acenaphthylene	< 279	ug/Kg	8/27/2024 12:59
Acetophenone	< 279	ug/Kg	8/27/2024 12:59
Anthracene	< 279	ug/Kg	8/27/2024 12:59
Atrazine	< 279	ug/Kg	8/27/2024 12:59
Benzaldehyde	< 279	ug/Kg	8/27/2024 12:59
Benzo (a) anthracene	**532**	ug/Kg	8/27/2024 12:59

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-6		
Lab Sample ID:	243844-06	**Date Sampled:** 8/20/2024	11:40
Matrix:	Soil	**Date Received** 8/21/2024	

Benzo (a) pyrene	**815**	ug/Kg	8/27/2024	12:59
Benzo (b) fluoranthene	**722**	ug/Kg	8/27/2024	12:59
Benzo (g,h,i) perylene	**552**	ug/Kg	8/27/2024	12:59
Benzo (k) fluoranthene	**528**	ug/Kg	8/27/2024	12:59
Bis (2-chloroethoxy) methane	< 279	ug/Kg	8/27/2024	12:59
Bis (2-chloroethyl) ether	< 279	ug/Kg	8/27/2024	12:59
Bis (2-ethylhexyl) phthalate	< 279	ug/Kg	8/27/2024	12:59
Butylbenzylphthalate	< 279	ug/Kg	8/27/2024	12:59
Caprolactam	< 279	ug/Kg	8/27/2024	12:59
Carbazole	< 279	ug/Kg	8/27/2024	12:59
Chrysene	**726**	ug/Kg	8/27/2024	12:59
Dibenz (a,h) anthracene	< 279	ug/Kg	8/27/2024	12:59
Dibenzofuran	< 279	ug/Kg	8/27/2024	12:59
Diethyl phthalate	< 279	ug/Kg	8/27/2024	12:59
Dimethyl phthalate	< 279	ug/Kg	8/27/2024	12:59
Di-n-butyl phthalate	< 279	ug/Kg	8/27/2024	12:59
Di-n-octylphthalate	< 279	ug/Kg	8/27/2024	12:59
Fluoranthene	**583**	ug/Kg	8/27/2024	12:59
Fluorene	< 279	ug/Kg	8/27/2024	12:59
Hexachlorobenzene	< 279	ug/Kg	8/27/2024	12:59
Hexachlorobutadiene	< 279	ug/Kg	8/27/2024	12:59
Hexachlorocyclopentadiene	< 1120	ug/Kg	8/27/2024	12:59
Hexachloroethane	< 279	ug/Kg	8/27/2024	12:59
Indeno (1,2,3-cd) pyrene	**574**	ug/Kg	8/27/2024	12:59
Isophorone	< 279	ug/Kg	8/27/2024	12:59
Naphthalene	< 279	ug/Kg	8/27/2024	12:59
Nitrobenzene	< 279	ug/Kg	8/27/2024	12:59
N-Nitroso-di-n-propylamine	< 279	ug/Kg	8/27/2024	12:59
N-Nitrosodiphenylamine	< 279	ug/Kg	8/27/2024	12:59
Pentachlorophenol	< 559	ug/Kg	8/27/2024	12:59

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-6
Lab Sample ID: 243844-06 **Date Sampled:** 8/20/2024 11:40
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**297**	ug/Kg		8/27/2024 12:59
Phenol	< 279	ug/Kg		8/27/2024 12:59
Pyrene	**775**	ug/Kg		8/27/2024 12:59

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**70.5**	34.3 - 95.6		8/27/2024 12:59
2-Fluorobiphenyl	**72.0**	37.9 - 87.2		8/27/2024 12:59
2-Fluorophenol	**68.9**	34.4 - 80.5		8/27/2024 12:59
Nitrobenzene-d5	**66.5**	33.2 - 82.1		8/27/2024 12:59
Phenol-d5	**73.8**	36.4 - 85.4		8/27/2024 12:59
Terphenyl-d14	**76.3**	45.9 - 96		8/27/2024 12:59

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73430.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-7		
Lab Sample ID:	243844-07	**Date Sampled:** 8/20/2024	11:50
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0506**	mg/Kg		8/26/2024 15:59

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**3660**	mg/Kg		8/23/2024 14:14
Antimony	< 3.10	mg/Kg		8/23/2024 14:14
Arsenic	**24.7**	mg/Kg		8/23/2024 14:14
Barium	**79.6**	mg/Kg		8/23/2024 14:14
Beryllium	< 0.258	mg/Kg		8/23/2024 14:14
Cadmium	**4.59**	mg/Kg		8/23/2024 14:14
Calcium	**144000**	mg/Kg		8/23/2024 15:57
Chromium	**171**	mg/Kg		8/23/2024 14:14
Cobalt	**11.6**	mg/Kg		8/23/2024 14:14
Copper	**237**	mg/Kg		8/23/2024 14:14
Iron	**123000**	mg/Kg		8/23/2024 15:57
Lead	**42.2**	mg/Kg		8/23/2024 14:14
Magnesium	**7700**	mg/Kg		8/23/2024 14:14
Manganese	**3070**	mg/Kg		8/23/2024 15:57
Nickel	**109**	mg/Kg		8/23/2024 14:14
Potassium	**1080**	mg/Kg		8/23/2024 14:14
Selenium	< 1.03	mg/Kg		8/23/2024 14:14
Silver	< 0.517	mg/Kg		8/23/2024 14:14
Sodium	**592**	mg/Kg		8/23/2024 14:14
Thallium	< 1.29	mg/Kg		8/23/2024 14:14
Vanadium	**16.9**	mg/Kg		8/23/2024 14:14

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Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-7
Lab Sample ID: 243844-07 **Date Sampled:** 8/20/2024 11:50
Matrix: Soil **Date Received** 8/21/2024

Zinc	**115**	mg/Kg		8/23/2024 14:14

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1221	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1232	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1242	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1248	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1254	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1260	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1262	< 0.134	mg/Kg		8/23/2024 21:10
PCB-1268	< 0.134	mg/Kg		8/23/2024 21:10

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**83.2**	16.1 - 102		8/23/2024 21:10

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 302	ug/Kg		8/27/2024 13:28
1,2,4,5-Tetrachlorobenzene	< 302	ug/Kg		8/27/2024 13:28
1,2,4-Trichlorobenzene	< 302	ug/Kg		8/27/2024 13:28
1,2-Dichlorobenzene	< 302	ug/Kg		8/27/2024 13:28
1,3-Dichlorobenzene	< 302	ug/Kg		8/27/2024 13:28
1,4-Dichlorobenzene	< 302	ug/Kg		8/27/2024 13:28
2,2-Oxybis (1-chloropropane)	< 302	ug/Kg		8/27/2024 13:28
2,3,4,6-Tetrachlorophenol	< 302	ug/Kg	M	8/27/2024 13:28

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-7
Lab Sample ID: 243844-07 **Date Sampled:** 8/20/2024 11:50
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 302	ug/Kg		8/27/2024 13:28
2,4,6-Trichlorophenol	< 302	ug/Kg		8/27/2024 13:28
2,4-Dichlorophenol	< 302	ug/Kg		8/27/2024 13:28
2,4-Dimethylphenol	< 302	ug/Kg	M	8/27/2024 13:28
2,4-Dinitrophenol	< 1210	ug/Kg		8/27/2024 13:28
2,4-Dinitrotoluene	< 302	ug/Kg		8/27/2024 13:28
2,6-Dinitrotoluene	< 302	ug/Kg		8/27/2024 13:28
2-Chloronaphthalene	< 302	ug/Kg		8/27/2024 13:28
2-Chlorophenol	< 302	ug/Kg		8/27/2024 13:28
2-Methylnapthalene	< 302	ug/Kg		8/27/2024 13:28
2-Methylphenol	< 302	ug/Kg		8/27/2024 13:28
2-Nitroaniline	< 302	ug/Kg		8/27/2024 13:28
2-Nitrophenol	< 302	ug/Kg	M	8/27/2024 13:28
3&4-Methylphenol	< 302	ug/Kg		8/27/2024 13:28
3,3'-Dichlorobenzidine	< 302	ug/Kg		8/27/2024 13:28
3-Nitroaniline	< 302	ug/Kg		8/27/2024 13:28
4,6-Dinitro-2-methylphenol	< 604	ug/Kg		8/27/2024 13:28
4-Bromophenyl phenyl ether	< 302	ug/Kg		8/27/2024 13:28
4-Chloro-3-methylphenol	< 302	ug/Kg		8/27/2024 13:28
4-Chloroaniline	< 302	ug/Kg		8/27/2024 13:28
4-Chlorophenyl phenyl ether	< 302	ug/Kg		8/27/2024 13:28
4-Nitroaniline	< 302	ug/Kg		8/27/2024 13:28
4-Nitrophenol	< 302	ug/Kg		8/27/2024 13:28
Acenaphthene	**1130**	ug/Kg	M	8/27/2024 13:28
Acenaphthylene	< 302	ug/Kg		8/27/2024 13:28
Acetophenone	< 302	ug/Kg		8/27/2024 13:28
Anthracene	**1710**	ug/Kg		8/27/2024 13:28
Atrazine	< 302	ug/Kg		8/27/2024 13:28
Benzaldehyde	< 302	ug/Kg		8/27/2024 13:28
Benzo (a) anthracene	**5410**	ug/Kg		8/27/2024 13:28

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-7
Lab Sample ID: 243844-07 **Date Sampled:** 8/20/2024 11:50
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**6330**	ug/Kg	8/27/2024 13:28
Benzo (b) fluoranthene	**6970**	ug/Kg	8/27/2024 13:28
Benzo (g,h,i) perylene	**3980**	ug/Kg	8/27/2024 13:28
Benzo (k) fluoranthene	**3800**	ug/Kg	8/27/2024 13:28
Bis (2-chloroethoxy) methane	< 302	ug/Kg	8/27/2024 13:28
Bis (2-chloroethyl) ether	< 302	ug/Kg	8/27/2024 13:28
Bis (2-ethylhexyl) phthalate	< 302	ug/Kg	8/27/2024 13:28
Butylbenzylphthalate	< 302	ug/Kg	8/27/2024 13:28
Caprolactam	< 302	ug/Kg	8/27/2024 13:28
Carbazole	**1130**	ug/Kg	8/27/2024 13:28
Chrysene	**6520**	ug/Kg	8/27/2024 13:28
Dibenz (a,h) anthracene	**1510**	ug/Kg	8/27/2024 13:28
Dibenzofuran	**441**	ug/Kg	8/27/2024 13:28
Diethyl phthalate	< 302	ug/Kg	8/27/2024 13:28
Dimethyl phthalate	< 302	ug/Kg	8/27/2024 13:28
Di-n-butyl phthalate	< 302	ug/Kg	8/27/2024 13:28
Di-n-octylphthalate	< 302	ug/Kg	8/27/2024 13:28
Fluoranthene	**12000**	ug/Kg	8/27/2024 13:28
Fluorene	**919**	ug/Kg	8/27/2024 13:28
Hexachlorobenzene	< 302	ug/Kg	8/27/2024 13:28
Hexachlorobutadiene	< 302	ug/Kg	8/27/2024 13:28
Hexachlorocyclopentadiene	< 1210	ug/Kg	8/27/2024 13:28
Hexachloroethane	< 302	ug/Kg	8/27/2024 13:28
Indeno (1,2,3-cd) pyrene	**4430**	ug/Kg	8/27/2024 13:28
Isophorone	< 302	ug/Kg	8/27/2024 13:28
Naphthalene	< 302	ug/Kg	8/27/2024 13:28
Nitrobenzene	< 302	ug/Kg	8/27/2024 13:28
N-Nitroso-di-n-propylamine	< 302	ug/Kg	8/27/2024 13:28
N-Nitrosodiphenylamine	< 302	ug/Kg	8/27/2024 13:28
Pentachlorophenol	< 604	ug/Kg	8/27/2024 13:28

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-7
Lab Sample ID: 243844-07 **Date Sampled:** 8/20/2024 11:50
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**9040**	ug/Kg			8/27/2024 13:28
Phenol	< 302	ug/Kg			8/27/2024 13:28
Pyrene	**10600**	ug/Kg		D,M	8/27/2024 13:28

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**46.9**	34.3 - 95.6		8/27/2024 13:28
2-Fluorobiphenyl	**58.5**	37.9 - 87.2		8/27/2024 13:28
2-Fluorophenol	**53.2**	34.4 - 80.5		8/27/2024 13:28
Nitrobenzene-d5	**52.8**	33.2 - 82.1		8/27/2024 13:28
Phenol-d5	**58.9**	36.4 - 85.4		8/27/2024 13:28
Terphenyl-d14	**64.6**	45.9 - 96		8/27/2024 13:28

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73431.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-8		
Lab Sample ID:	243844-08	**Date Sampled:** 8/20/2024	11:55
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.00706	mg/Kg		8/26/2024 16:05

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**856**	mg/Kg		8/23/2024 14:18
Antimony	< 3.03	mg/Kg		8/23/2024 14:18
Arsenic	**2.74**	mg/Kg		8/23/2024 14:18
Barium	< 5.05	mg/Kg		8/23/2024 14:18
Beryllium	< 0.253	mg/Kg		8/23/2024 14:18
Cadmium	< 0.253	mg/Kg		8/23/2024 14:18
Calcium	**147000**	mg/Kg		8/23/2024 16:00
Chromium	**3.83**	mg/Kg		8/23/2024 14:18
Cobalt	< 2.53	mg/Kg		8/23/2024 14:18
Copper	**6.23**	mg/Kg		8/23/2024 14:18
Iron	**2670**	mg/Kg		8/23/2024 14:18
Lead	**2.78**	mg/Kg		8/23/2024 14:18
Magnesium	**4030**	mg/Kg		8/23/2024 14:18
Manganese	**52.2**	mg/Kg		8/23/2024 14:18
Nickel	**7.60**	mg/Kg		8/23/2024 14:18
Potassium	**547**	mg/Kg		8/23/2024 14:18
Selenium	< 1.01	mg/Kg		8/23/2024 14:18
Silver	< 0.505	mg/Kg		8/23/2024 14:18
Sodium	**204**	mg/Kg		8/23/2024 14:18
Thallium	< 1.26	mg/Kg		8/23/2024 14:18
Vanadium	**3.22**	mg/Kg		8/23/2024 14:18

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Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-8
Lab Sample ID: 243844-08 **Date Sampled:** 8/20/2024 11:55
Matrix: Soil **Date Received** 8/21/2024

Zinc	**14.4**	mg/Kg		8/23/2024 14:18

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1221	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1232	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1242	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1248	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1254	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1260	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1262	< 0.142	mg/Kg		8/23/2024 21:33
PCB-1268	< 0.142	mg/Kg		8/23/2024 21:33

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**72.2**	16.1 - 102		8/23/2024 21:33

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 288	ug/Kg		8/27/2024 14:56
1,2,4,5-Tetrachlorobenzene	< 288	ug/Kg		8/27/2024 14:56
1,2,4-Trichlorobenzene	< 288	ug/Kg		8/27/2024 14:56
1,2-Dichlorobenzene	< 288	ug/Kg		8/27/2024 14:56
1,3-Dichlorobenzene	< 288	ug/Kg		8/27/2024 14:56
1,4-Dichlorobenzene	< 288	ug/Kg		8/27/2024 14:56
2,2-Oxybis (1-chloropropane)	< 288	ug/Kg		8/27/2024 14:56
2,3,4,6-Tetrachlorophenol	< 288	ug/Kg		8/27/2024 14:56

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-8
Lab Sample ID: 243844-08 **Date Sampled:** 8/20/2024 11:55
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 288	ug/Kg	8/27/2024 14:56
2,4,6-Trichlorophenol	< 288	ug/Kg	8/27/2024 14:56
2,4-Dichlorophenol	< 288	ug/Kg	8/27/2024 14:56
2,4-Dimethylphenol	< 288	ug/Kg	8/27/2024 14:56
2,4-Dinitrophenol	< 1150	ug/Kg	8/27/2024 14:56
2,4-Dinitrotoluene	< 288	ug/Kg	8/27/2024 14:56
2,6-Dinitrotoluene	< 288	ug/Kg	8/27/2024 14:56
2-Chloronaphthalene	< 288	ug/Kg	8/27/2024 14:56
2-Chlorophenol	< 288	ug/Kg	8/27/2024 14:56
2-Methylnapthalene	< 288	ug/Kg	8/27/2024 14:56
2-Methylphenol	< 288	ug/Kg	8/27/2024 14:56
2-Nitroaniline	< 288	ug/Kg	8/27/2024 14:56
2-Nitrophenol	< 288	ug/Kg	8/27/2024 14:56
3&4-Methylphenol	< 288	ug/Kg	8/27/2024 14:56
3,3'-Dichlorobenzidine	< 288	ug/Kg	8/27/2024 14:56
3-Nitroaniline	< 288	ug/Kg	8/27/2024 14:56
4,6-Dinitro-2-methylphenol	< 576	ug/Kg	8/27/2024 14:56
4-Bromophenyl phenyl ether	< 288	ug/Kg	8/27/2024 14:56
4-Chloro-3-methylphenol	< 288	ug/Kg	8/27/2024 14:56
4-Chloroaniline	< 288	ug/Kg	8/27/2024 14:56
4-Chlorophenyl phenyl ether	< 288	ug/Kg	8/27/2024 14:56
4-Nitroaniline	< 288	ug/Kg	8/27/2024 14:56
4-Nitrophenol	< 288	ug/Kg	8/27/2024 14:56
Acenaphthene	< 288	ug/Kg	8/27/2024 14:56
Acenaphthylene	< 288	ug/Kg	8/27/2024 14:56
Acetophenone	< 288	ug/Kg	8/27/2024 14:56
Anthracene	< 288	ug/Kg	8/27/2024 14:56
Atrazine	< 288	ug/Kg	8/27/2024 14:56
Benzaldehyde	< 288	ug/Kg	8/27/2024 14:56
Benzo (a) anthracene	< 288	ug/Kg	8/27/2024 14:56

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-8
Lab Sample ID: 243844-08 **Date Sampled:** 8/20/2024 11:55
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	< 288	ug/Kg	8/27/2024 14:56
Benzo (b) fluoranthene	< 288	ug/Kg	8/27/2024 14:56
Benzo (g,h,i) perylene	< 288	ug/Kg	8/27/2024 14:56
Benzo (k) fluoranthene	< 288	ug/Kg	8/27/2024 14:56
Bis (2-chloroethoxy) methane	< 288	ug/Kg	8/27/2024 14:56
Bis (2-chloroethyl) ether	< 288	ug/Kg	8/27/2024 14:56
Bis (2-ethylhexyl) phthalate	< 288	ug/Kg	8/27/2024 14:56
Butylbenzylphthalate	< 288	ug/Kg	8/27/2024 14:56
Caprolactam	< 288	ug/Kg	8/27/2024 14:56
Carbazole	< 288	ug/Kg	8/27/2024 14:56
Chrysene	< 288	ug/Kg	8/27/2024 14:56
Dibenz (a,h) anthracene	< 288	ug/Kg	8/27/2024 14:56
Dibenzofuran	< 288	ug/Kg	8/27/2024 14:56
Diethyl phthalate	< 288	ug/Kg	8/27/2024 14:56
Dimethyl phthalate	< 288	ug/Kg	8/27/2024 14:56
Di-n-butyl phthalate	< 288	ug/Kg	8/27/2024 14:56
Di-n-octylphthalate	< 288	ug/Kg	8/27/2024 14:56
Fluoranthene	< 288	ug/Kg	8/27/2024 14:56
Fluorene	< 288	ug/Kg	8/27/2024 14:56
Hexachlorobenzene	< 288	ug/Kg	8/27/2024 14:56
Hexachlorobutadiene	< 288	ug/Kg	8/27/2024 14:56
Hexachlorocyclopentadiene	< 1150	ug/Kg	8/27/2024 14:56
Hexachloroethane	< 288	ug/Kg	8/27/2024 14:56
Indeno (1,2,3-cd) pyrene	< 288	ug/Kg	8/27/2024 14:56
Isophorone	< 288	ug/Kg	8/27/2024 14:56
Naphthalene	< 288	ug/Kg	8/27/2024 14:56
Nitrobenzene	< 288	ug/Kg	8/27/2024 14:56
N-Nitroso-di-n-propylamine	< 288	ug/Kg	8/27/2024 14:56
N-Nitrosodiphenylamine	< 288	ug/Kg	8/27/2024 14:56
Pentachlorophenol	< 576	ug/Kg	8/27/2024 14:56

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-8
Lab Sample ID: 243844-08 **Date Sampled:** 8/20/2024 11:55
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	< 288	ug/Kg		8/27/2024 14:56
Phenol	< 288	ug/Kg		8/27/2024 14:56
Pyrene	< 288	ug/Kg		8/27/2024 14:56

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**64.0**	34.3 - 95.6		8/27/2024 14:56
2-Fluorobiphenyl	**70.0**	37.9 - 87.2		8/27/2024 14:56
2-Fluorophenol	**67.2**	34.4 - 80.5		8/27/2024 14:56
Nitrobenzene-d5	**64.9**	33.2 - 82.1		8/27/2024 14:56
Phenol-d5	**73.1**	36.4 - 85.4		8/27/2024 14:56
Terphenyl-d14	**78.5**	45.9 - 96		8/27/2024 14:56

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73434.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-9		
Lab Sample ID:	243844-09	**Date Sampled:** 8/20/2024	12:00
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0188**	mg/Kg		8/26/2024 16:07

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**8320**	mg/Kg		8/23/2024 14:21
Antimony	< 3.18	mg/Kg		8/23/2024 14:21
Arsenic	**7.30**	mg/Kg		8/23/2024 14:21
Barium	**90.9**	mg/Kg		8/23/2024 14:21
Beryllium	**0.752**	mg/Kg		8/23/2024 14:21
Cadmium	**0.795**	mg/Kg		8/23/2024 14:21
Calcium	**127000**	mg/Kg		8/23/2024 16:03
Chromium	**24.9**	mg/Kg		8/23/2024 14:21
Cobalt	**3.38**	mg/Kg		8/23/2024 14:21
Copper	**2070**	mg/Kg		8/23/2024 16:03
Iron	**19400**	mg/Kg		8/23/2024 14:21
Lead	**33.6**	mg/Kg		8/23/2024 14:21
Magnesium	**11400**	mg/Kg		8/23/2024 14:21
Manganese	**1770**	mg/Kg		8/23/2024 16:03
Nickel	**16.4**	mg/Kg		8/23/2024 14:21
Potassium	**927**	mg/Kg		8/23/2024 14:21
Selenium	< 1.06	mg/Kg		8/23/2024 14:21
Silver	< 0.530	mg/Kg		8/23/2024 14:21
Sodium	**365**	mg/Kg		8/23/2024 14:21
Thallium	< 1.32	mg/Kg		8/23/2024 14:21
Vanadium	**8.56**	mg/Kg		8/23/2024 14:21

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Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-9
Lab Sample ID: 243844-09 **Date Sampled:** 8/20/2024 12:00
Matrix: Soil **Date Received** 8/21/2024

Zinc	**54.0**	mg/Kg		8/23/2024 14:21

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1221	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1232	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1242	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1248	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1254	**0.449**	mg/Kg		8/23/2024 21:56
PCB-1260	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1262	< 0.163	mg/Kg		8/23/2024 21:56
PCB-1268	< 0.163	mg/Kg		8/23/2024 21:56

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**86.6**	16.1 - 102		8/23/2024 21:56

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 304	ug/Kg		8/27/2024 15:26
1,2,4,5-Tetrachlorobenzene	< 304	ug/Kg		8/27/2024 15:26
1,2,4-Trichlorobenzene	< 304	ug/Kg		8/27/2024 15:26
1,2-Dichlorobenzene	< 304	ug/Kg		8/27/2024 15:26
1,3-Dichlorobenzene	< 304	ug/Kg		8/27/2024 15:26
1,4-Dichlorobenzene	< 304	ug/Kg		8/27/2024 15:26
2,2-Oxybis (1-chloropropane)	< 304	ug/Kg		8/27/2024 15:26
2,3,4,6-Tetrachlorophenol	< 304	ug/Kg		8/27/2024 15:26

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-9
Lab Sample ID: 243844-09 **Date Sampled:** 8/20/2024 12:00
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 304	ug/Kg	8/27/2024 15:26
2,4,6-Trichlorophenol	< 304	ug/Kg	8/27/2024 15:26
2,4-Dichlorophenol	< 304	ug/Kg	8/27/2024 15:26
2,4-Dimethylphenol	< 304	ug/Kg	8/27/2024 15:26
2,4-Dinitrophenol	< 1220	ug/Kg	8/27/2024 15:26
2,4-Dinitrotoluene	< 304	ug/Kg	8/27/2024 15:26
2,6-Dinitrotoluene	< 304	ug/Kg	8/27/2024 15:26
2-Chloronaphthalene	< 304	ug/Kg	8/27/2024 15:26
2-Chlorophenol	< 304	ug/Kg	8/27/2024 15:26
2-Methylnapthalene	**333**	ug/Kg	8/27/2024 15:26
2-Methylphenol	< 304	ug/Kg	8/27/2024 15:26
2-Nitroaniline	< 304	ug/Kg	8/27/2024 15:26
2-Nitrophenol	< 304	ug/Kg	8/27/2024 15:26
3&4-Methylphenol	< 304	ug/Kg	8/27/2024 15:26
3,3'-Dichlorobenzidine	< 304	ug/Kg	8/27/2024 15:26
3-Nitroaniline	< 304	ug/Kg	8/27/2024 15:26
4,6-Dinitro-2-methylphenol	< 609	ug/Kg	8/27/2024 15:26
4-Bromophenyl phenyl ether	< 304	ug/Kg	8/27/2024 15:26
4-Chloro-3-methylphenol	< 304	ug/Kg	8/27/2024 15:26
4-Chloroaniline	< 304	ug/Kg	8/27/2024 15:26
4-Chlorophenyl phenyl ether	< 304	ug/Kg	8/27/2024 15:26
4-Nitroaniline	< 304	ug/Kg	8/27/2024 15:26
4-Nitrophenol	< 304	ug/Kg	8/27/2024 15:26
Acenaphthene	< 304	ug/Kg	8/27/2024 15:26
Acenaphthylene	< 304	ug/Kg	8/27/2024 15:26
Acetophenone	< 304	ug/Kg	8/27/2024 15:26
Anthracene	**475**	ug/Kg	8/27/2024 15:26
Atrazine	< 304	ug/Kg	8/27/2024 15:26
Benzaldehyde	< 304	ug/Kg	8/27/2024 15:26
Benzo (a) anthracene	**4850**	ug/Kg	8/27/2024 15:26

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-9
Lab Sample ID: 243844-09 **Date Sampled:** 8/20/2024 12:00
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**7510**	ug/Kg	8/27/2024 15:26
Benzo (b) fluoranthene	**7900**	ug/Kg	8/27/2024 15:26
Benzo (g,h,i) perylene	**5190**	ug/Kg	8/27/2024 15:26
Benzo (k) fluoranthene	**4750**	ug/Kg	8/27/2024 15:26
Bis (2-chloroethoxy) methane	< 304	ug/Kg	8/27/2024 15:26
Bis (2-chloroethyl) ether	< 304	ug/Kg	8/27/2024 15:26
Bis (2-ethylhexyl) phthalate	< 304	ug/Kg	8/27/2024 15:26
Butylbenzylphthalate	< 304	ug/Kg	8/27/2024 15:26
Caprolactam	< 304	ug/Kg	8/27/2024 15:26
Carbazole	**340**	ug/Kg	8/27/2024 15:26
Chrysene	**6170**	ug/Kg	8/27/2024 15:26
Dibenz (a,h) anthracene	**1900**	ug/Kg	8/27/2024 15:26
Dibenzofuran	< 304	ug/Kg	8/27/2024 15:26
Diethyl phthalate	< 304	ug/Kg	8/27/2024 15:26
Dimethyl phthalate	< 304	ug/Kg	8/27/2024 15:26
Di-n-butyl phthalate	< 304	ug/Kg	8/27/2024 15:26
Di-n-octylphthalate	< 304	ug/Kg	8/27/2024 15:26
Fluoranthene	**6540**	ug/Kg	8/27/2024 15:26
Fluorene	< 304	ug/Kg	8/27/2024 15:26
Hexachlorobenzene	< 304	ug/Kg	8/27/2024 15:26
Hexachlorobutadiene	< 304	ug/Kg	8/27/2024 15:26
Hexachlorocyclopentadiene	< 1220	ug/Kg	8/27/2024 15:26
Hexachloroethane	< 304	ug/Kg	8/27/2024 15:26
Indeno (1,2,3-cd) pyrene	**5590**	ug/Kg	8/27/2024 15:26
Isophorone	< 304	ug/Kg	8/27/2024 15:26
Naphthalene	< 304	ug/Kg	8/27/2024 15:26
Nitrobenzene	< 304	ug/Kg	8/27/2024 15:26
N-Nitroso-di-n-propylamine	< 304	ug/Kg	8/27/2024 15:26
N-Nitrosodiphenylamine	< 304	ug/Kg	8/27/2024 15:26
Pentachlorophenol	< 609	ug/Kg	8/27/2024 15:26

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-9
Lab Sample ID: 243844-09 **Date Sampled:** 8/20/2024 12:00
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**2290**	ug/Kg		8/27/2024 15:26
Phenol	< 304	ug/Kg		8/27/2024 15:26
Pyrene	**6970**	ug/Kg		8/27/2024 15:26

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**65.4**	34.3 - 95.6		8/27/2024 15:26
2-Fluorobiphenyl	**65.7**	37.9 - 87.2		8/27/2024 15:26
2-Fluorophenol	**65.2**	34.4 - 80.5		8/27/2024 15:26
Nitrobenzene-d5	**62.4**	33.2 - 82.1		8/27/2024 15:26
Phenol-d5	**70.0**	36.4 - 85.4		8/27/2024 15:26
Terphenyl-d14	**73.1**	45.9 - 96		8/27/2024 15:26

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73435.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-10		
Lab Sample ID:	243844-10	**Date Sampled:** 8/20/2024	12:10
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0264**	mg/Kg		8/26/2024 16:09

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**3120**	mg/Kg		8/23/2024 14:25
Antimony	< 3.38	mg/Kg		8/23/2024 14:25
Arsenic	**8.24**	mg/Kg		8/23/2024 14:25
Barium	**33.4**	mg/Kg		8/23/2024 14:25
Beryllium	< 0.282	mg/Kg		8/23/2024 14:25
Cadmium	**0.895**	mg/Kg		8/23/2024 14:25
Calcium	**181000**	mg/Kg		8/23/2024 16:06
Chromium	**21.6**	mg/Kg		8/23/2024 14:25
Cobalt	< 2.82	mg/Kg		8/23/2024 14:25
Copper	**40.6**	mg/Kg		8/23/2024 14:25
Iron	**19300**	mg/Kg		8/23/2024 14:25
Lead	**33.4**	mg/Kg		8/23/2024 14:25
Magnesium	**8090**	mg/Kg		8/23/2024 14:25
Manganese	**533**	mg/Kg		8/23/2024 14:25
Nickel	**20.6**	mg/Kg		8/23/2024 14:25
Potassium	**677**	mg/Kg		8/23/2024 14:25
Selenium	< 1.13	mg/Kg		8/23/2024 14:25
Silver	< 0.563	mg/Kg		8/23/2024 14:25
Sodium	**328**	mg/Kg		8/23/2024 14:25
Thallium	< 1.41	mg/Kg		8/23/2024 14:25
Vanadium	**7.19**	mg/Kg		8/23/2024 14:25

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Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-10
Lab Sample ID: 243844-10 **Date Sampled:** 8/20/2024 12:10
Matrix: Soil **Date Received** 8/21/2024

Zinc	**69.7**	mg/Kg		8/23/2024 14:25

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1221	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1232	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1242	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1248	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1254	**0.179**	mg/Kg		8/23/2024 22:19
PCB-1260	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1262	< 0.131	mg/Kg		8/23/2024 22:19
PCB-1268	< 0.131	mg/Kg		8/23/2024 22:19

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**86.9**	16.1 - 102		8/23/2024 22:19

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 299	ug/Kg		8/27/2024 15:56
1,2,4,5-Tetrachlorobenzene	< 299	ug/Kg		8/27/2024 15:56
1,2,4-Trichlorobenzene	< 299	ug/Kg		8/27/2024 15:56
1,2-Dichlorobenzene	< 299	ug/Kg		8/27/2024 15:56
1,3-Dichlorobenzene	< 299	ug/Kg		8/27/2024 15:56
1,4-Dichlorobenzene	< 299	ug/Kg		8/27/2024 15:56
2,2-Oxybis (1-chloropropane)	< 299	ug/Kg		8/27/2024 15:56
2,3,4,6-Tetrachlorophenol	< 299	ug/Kg		8/27/2024 15:56

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-10		
Lab Sample ID:	243844-10	**Date Sampled:** 8/20/2024	12:10
Matrix:	Soil	**Date Received** 8/21/2024	

2,4,5-Trichlorophenol	< 299	ug/Kg	8/27/2024	15:56
2,4,6-Trichlorophenol	< 299	ug/Kg	8/27/2024	15:56
2,4-Dichlorophenol	< 299	ug/Kg	8/27/2024	15:56
2,4-Dimethylphenol	< 299	ug/Kg	8/27/2024	15:56
2,4-Dinitrophenol	< 1200	ug/Kg	8/27/2024	15:56
2,4-Dinitrotoluene	< 299	ug/Kg	8/27/2024	15:56
2,6-Dinitrotoluene	< 299	ug/Kg	8/27/2024	15:56
2-Chloronaphthalene	< 299	ug/Kg	8/27/2024	15:56
2-Chlorophenol	< 299	ug/Kg	8/27/2024	15:56
2-Methylnapthalene	**393**	ug/Kg	8/27/2024	15:56
2-Methylphenol	< 299	ug/Kg	8/27/2024	15:56
2-Nitroaniline	< 299	ug/Kg	8/27/2024	15:56
2-Nitrophenol	< 299	ug/Kg	8/27/2024	15:56
3&4-Methylphenol	< 299	ug/Kg	8/27/2024	15:56
3,3'-Dichlorobenzidine	< 299	ug/Kg	8/27/2024	15:56
3-Nitroaniline	< 299	ug/Kg	8/27/2024	15:56
4,6-Dinitro-2-methylphenol	< 599	ug/Kg	8/27/2024	15:56
4-Bromophenyl phenyl ether	< 299	ug/Kg	8/27/2024	15:56
4-Chloro-3-methylphenol	< 299	ug/Kg	8/27/2024	15:56
4-Chloroaniline	< 299	ug/Kg	8/27/2024	15:56
4-Chlorophenyl phenyl ether	< 299	ug/Kg	8/27/2024	15:56
4-Nitroaniline	< 299	ug/Kg	8/27/2024	15:56
4-Nitrophenol	< 299	ug/Kg	8/27/2024	15:56
Acenaphthene	< 299	ug/Kg	8/27/2024	15:56
Acenaphthylene	< 299	ug/Kg	8/27/2024	15:56
Acetophenone	< 299	ug/Kg	8/27/2024	15:56
Anthracene	< 299	ug/Kg	8/27/2024	15:56
Atrazine	< 299	ug/Kg	8/27/2024	15:56
Benzaldehyde	< 299	ug/Kg	8/27/2024	15:56
Benzo (a) anthracene	**4120**	ug/Kg	8/27/2024	15:56

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-10
Lab Sample ID: 243844-10 **Date Sampled:** 8/20/2024 12:10
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**6590**	ug/Kg	8/27/2024 15:56
Benzo (b) fluoranthene	**6970**	ug/Kg	8/27/2024 15:56
Benzo (g,h,i) perylene	**4520**	ug/Kg	8/27/2024 15:56
Benzo (k) fluoranthene	**3650**	ug/Kg	8/27/2024 15:56
Bis (2-chloroethoxy) methane	< 299	ug/Kg	8/27/2024 15:56
Bis (2-chloroethyl) ether	< 299	ug/Kg	8/27/2024 15:56
Bis (2-ethylhexyl) phthalate	< 299	ug/Kg	8/27/2024 15:56
Butylbenzylphthalate	< 299	ug/Kg	8/27/2024 15:56
Caprolactam	< 299	ug/Kg	8/27/2024 15:56
Carbazole	< 299	ug/Kg	8/27/2024 15:56
Chrysene	**5360**	ug/Kg	8/27/2024 15:56
Dibenz (a,h) anthracene	**1570**	ug/Kg	8/27/2024 15:56
Dibenzofuran	< 299	ug/Kg	8/27/2024 15:56
Diethyl phthalate	< 299	ug/Kg	8/27/2024 15:56
Dimethyl phthalate	< 299	ug/Kg	8/27/2024 15:56
Di-n-butyl phthalate	< 299	ug/Kg	8/27/2024 15:56
Di-n-octylphthalate	< 299	ug/Kg	8/27/2024 15:56
Fluoranthene	**4620**	ug/Kg	8/27/2024 15:56
Fluorene	< 299	ug/Kg	8/27/2024 15:56
Hexachlorobenzene	< 299	ug/Kg	8/27/2024 15:56
Hexachlorobutadiene	< 299	ug/Kg	8/27/2024 15:56
Hexachlorocyclopentadiene	< 1200	ug/Kg	8/27/2024 15:56
Hexachloroethane	< 299	ug/Kg	8/27/2024 15:56
Indeno (1,2,3-cd) pyrene	**4750**	ug/Kg	8/27/2024 15:56
Isophorone	< 299	ug/Kg	8/27/2024 15:56
Naphthalene	**300**	ug/Kg	8/27/2024 15:56
Nitrobenzene	< 299	ug/Kg	8/27/2024 15:56
N-Nitroso-di-n-propylamine	< 299	ug/Kg	8/27/2024 15:56
N-Nitrosodiphenylamine	< 299	ug/Kg	8/27/2024 15:56
Pentachlorophenol	< 599	ug/Kg	8/27/2024 15:56

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-10
Lab Sample ID: 243844-10 **Date Sampled:** 8/20/2024 12:10
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**1510**	ug/Kg		8/27/2024 15:56
Phenol	< 299	ug/Kg		8/27/2024 15:56
Pyrene	**5550**	ug/Kg		8/27/2024 15:56

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**66.8**	34.3 - 95.6		8/27/2024 15:56
2-Fluorobiphenyl	**65.6**	37.9 - 87.2		8/27/2024 15:56
2-Fluorophenol	**69.4**	34.4 - 80.5		8/27/2024 15:56
Nitrobenzene-d5	**63.3**	33.2 - 82.1		8/27/2024 15:56
Phenol-d5	**73.5**	36.4 - 85.4		8/27/2024 15:56
Terphenyl-d14	**71.6**	45.9 - 96		8/27/2024 15:56

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73436.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-11		
Lab Sample ID:	243844-11	**Date Sampled:** 8/20/2024	12:20
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0683**	mg/Kg		8/26/2024 16:11

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**6480**	mg/Kg		8/23/2024 14:29
Antimony	< 3.18	mg/Kg		8/23/2024 14:29
Arsenic	**4.71**	mg/Kg		8/23/2024 14:29
Barium	**44.2**	mg/Kg		8/23/2024 14:29
Beryllium	< 0.265	mg/Kg		8/23/2024 14:29
Cadmium	**0.466**	mg/Kg		8/23/2024 14:29
Calcium	**179000**	mg/Kg		8/23/2024 16:16
Chromium	**9.80**	mg/Kg		8/23/2024 14:29
Cobalt	**4.05**	mg/Kg		8/23/2024 14:29
Copper	**16.8**	mg/Kg		8/23/2024 14:29
Iron	**10000**	mg/Kg		8/23/2024 14:29
Lead	**45.4**	mg/Kg		8/23/2024 14:29
Magnesium	**10200**	mg/Kg		8/23/2024 14:29
Manganese	**268**	mg/Kg		8/23/2024 14:29
Nickel	**11.2**	mg/Kg		8/23/2024 14:29
Potassium	**1730**	mg/Kg		8/23/2024 14:29
Selenium	< 1.06	mg/Kg		8/23/2024 14:29
Silver	< 0.530	mg/Kg		8/23/2024 14:29
Sodium	**240**	mg/Kg		8/23/2024 14:29
Thallium	< 1.32	mg/Kg		8/23/2024 14:29
Vanadium	**13.7**	mg/Kg		8/23/2024 14:29

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-11
Lab Sample ID: 243844-11 **Date Sampled:** 8/20/2024 12:20
Matrix: Soil **Date Received** 8/21/2024

Zinc	**100**	mg/Kg		8/23/2024 14:29

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1221	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1232	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1242	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1248	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1254	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1260	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1262	< 0.150	mg/Kg		8/23/2024 22:42
PCB-1268	< 0.150	mg/Kg		8/23/2024 22:42

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**80.5**	16.1 - 102		8/23/2024 22:42

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 278	ug/Kg		8/27/2024 16:25
1,2,4,5-Tetrachlorobenzene	< 278	ug/Kg		8/27/2024 16:25
1,2,4-Trichlorobenzene	< 278	ug/Kg		8/27/2024 16:25
1,2-Dichlorobenzene	< 278	ug/Kg		8/27/2024 16:25
1,3-Dichlorobenzene	< 278	ug/Kg		8/27/2024 16:25
1,4-Dichlorobenzene	< 278	ug/Kg		8/27/2024 16:25
2,2-Oxybis (1-chloropropane)	< 278	ug/Kg		8/27/2024 16:25
2,3,4,6-Tetrachlorophenol	< 278	ug/Kg		8/27/2024 16:25

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-11
Lab Sample ID: 243844-11 **Date Sampled:** 8/20/2024 12:20
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 278	ug/Kg	8/27/2024 16:25
2,4,6-Trichlorophenol	< 278	ug/Kg	8/27/2024 16:25
2,4-Dichlorophenol	< 278	ug/Kg	8/27/2024 16:25
2,4-Dimethylphenol	< 278	ug/Kg	8/27/2024 16:25
2,4-Dinitrophenol	< 1110	ug/Kg	8/27/2024 16:25
2,4-Dinitrotoluene	< 278	ug/Kg	8/27/2024 16:25
2,6-Dinitrotoluene	< 278	ug/Kg	8/27/2024 16:25
2-Chloronaphthalene	< 278	ug/Kg	8/27/2024 16:25
2-Chlorophenol	< 278	ug/Kg	8/27/2024 16:25
2-Methylnapthalene	< 278	ug/Kg	8/27/2024 16:25
2-Methylphenol	< 278	ug/Kg	8/27/2024 16:25
2-Nitroaniline	< 278	ug/Kg	8/27/2024 16:25
2-Nitrophenol	< 278	ug/Kg	8/27/2024 16:25
3&4-Methylphenol	< 278	ug/Kg	8/27/2024 16:25
3,3'-Dichlorobenzidine	< 278	ug/Kg	8/27/2024 16:25
3-Nitroaniline	< 278	ug/Kg	8/27/2024 16:25
4,6-Dinitro-2-methylphenol	< 556	ug/Kg	8/27/2024 16:25
4-Bromophenyl phenyl ether	< 278	ug/Kg	8/27/2024 16:25
4-Chloro-3-methylphenol	< 278	ug/Kg	8/27/2024 16:25
4-Chloroaniline	< 278	ug/Kg	8/27/2024 16:25
4-Chlorophenyl phenyl ether	< 278	ug/Kg	8/27/2024 16:25
4-Nitroaniline	< 278	ug/Kg	8/27/2024 16:25
4-Nitrophenol	< 278	ug/Kg	8/27/2024 16:25
Acenaphthene	**290**	ug/Kg	8/27/2024 16:25
Acenaphthylene	< 278	ug/Kg	8/27/2024 16:25
Acetophenone	< 278	ug/Kg	8/27/2024 16:25
Anthracene	**641**	ug/Kg	8/27/2024 16:25
Atrazine	< 278	ug/Kg	8/27/2024 16:25
Benzaldehyde	< 278	ug/Kg	8/27/2024 16:25
Benzo (a) anthracene	**1330**	ug/Kg	8/27/2024 16:25

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-11		
Lab Sample ID:	243844-11	**Date Sampled:** 8/20/2024	12:20
Matrix:	Soil	**Date Received** 8/21/2024	

Benzo (a) pyrene	**1310**	ug/Kg	8/27/2024	16:25
Benzo (b) fluoranthene	**1380**	ug/Kg	8/27/2024	16:25
Benzo (g,h,i) perylene	**836**	ug/Kg	8/27/2024	16:25
Benzo (k) fluoranthene	**987**	ug/Kg	8/27/2024	16:25
Bis (2-chloroethoxy) methane	< 278	ug/Kg	8/27/2024	16:25
Bis (2-chloroethyl) ether	< 278	ug/Kg	8/27/2024	16:25
Bis (2-ethylhexyl) phthalate	< 278	ug/Kg	8/27/2024	16:25
Butylbenzylphthalate	< 278	ug/Kg	8/27/2024	16:25
Caprolactam	< 278	ug/Kg	8/27/2024	16:25
Carbazole	**418**	ug/Kg	8/27/2024	16:25
Chrysene	**1520**	ug/Kg	8/27/2024	16:25
Dibenz (a,h) anthracene	**307**	ug/Kg	8/27/2024	16:25
Dibenzofuran	< 278	ug/Kg	8/27/2024	16:25
Diethyl phthalate	< 278	ug/Kg	8/27/2024	16:25
Dimethyl phthalate	< 278	ug/Kg	8/27/2024	16:25
Di-n-butyl phthalate	< 278	ug/Kg	8/27/2024	16:25
Di-n-octylphthalate	< 278	ug/Kg	8/27/2024	16:25
Fluoranthene	**3270**	ug/Kg	8/27/2024	16:25
Fluorene	**339**	ug/Kg	8/27/2024	16:25
Hexachlorobenzene	< 278	ug/Kg	8/27/2024	16:25
Hexachlorobutadiene	< 278	ug/Kg	8/27/2024	16:25
Hexachlorocyclopentadiene	< 1110	ug/Kg	8/27/2024	16:25
Hexachloroethane	< 278	ug/Kg	8/27/2024	16:25
Indeno (1,2,3-cd) pyrene	**964**	ug/Kg	8/27/2024	16:25
Isophorone	< 278	ug/Kg	8/27/2024	16:25
Naphthalene	< 278	ug/Kg	8/27/2024	16:25
Nitrobenzene	< 278	ug/Kg	8/27/2024	16:25
N-Nitroso-di-n-propylamine	< 278	ug/Kg	8/27/2024	16:25
N-Nitrosodiphenylamine	< 278	ug/Kg	8/27/2024	16:25
Pentachlorophenol	< 556	ug/Kg	8/27/2024	16:25

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-11
Lab Sample ID: 243844-11 **Date Sampled:** 8/20/2024 12:20
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	**3140**	ug/Kg		8/27/2024 16:25
Phenol	< 278	ug/Kg		8/27/2024 16:25
Pyrene	**2720**	ug/Kg		8/27/2024 16:25

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**62.0**	34.3 - 95.6		8/27/2024 16:25
2-Fluorobiphenyl	**60.3**	37.9 - 87.2		8/27/2024 16:25
2-Fluorophenol	**59.0**	34.4 - 80.5		8/27/2024 16:25
Nitrobenzene-d5	**56.4**	33.2 - 82.1		8/27/2024 16:25
Phenol-d5	**62.6**	36.4 - 85.4		8/27/2024 16:25
Terphenyl-d14	**67.8**	45.9 - 96		8/27/2024 16:25

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73437.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-12		
Lab Sample ID:	243844-12	**Date Sampled:** 8/20/2024	12:25
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0279**	mg/Kg		8/26/2024 16:14

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**5180**	mg/Kg		8/23/2024 14:32
Antimony	< 3.19	mg/Kg		8/23/2024 14:32
Arsenic	**6.32**	mg/Kg		8/23/2024 14:32
Barium	**48.8**	mg/Kg		8/23/2024 14:32
Beryllium	**0.421**	mg/Kg		8/23/2024 14:32
Cadmium	**0.335**	mg/Kg		8/23/2024 14:32
Calcium	**169000**	mg/Kg		8/23/2024 16:19
Chromium	**9.48**	mg/Kg		8/23/2024 14:32
Cobalt	< 2.66	mg/Kg		8/23/2024 14:32
Copper	**16.3**	mg/Kg		8/23/2024 14:32
Iron	**6170**	mg/Kg		8/23/2024 14:32
Lead	**34.7**	mg/Kg		8/23/2024 14:32
Magnesium	**8340**	mg/Kg		8/23/2024 14:32
Manganese	**651**	mg/Kg		8/23/2024 16:19
Nickel	**7.42**	mg/Kg		8/23/2024 14:32
Potassium	**909**	mg/Kg		8/23/2024 14:32
Selenium	< 1.06	mg/Kg		8/23/2024 14:32
Silver	< 0.532	mg/Kg		8/23/2024 14:32
Sodium	**270**	mg/Kg		8/23/2024 14:32
Thallium	< 1.33	mg/Kg		8/23/2024 14:32
Vanadium	**6.94**	mg/Kg		8/23/2024 14:32

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-12
Lab Sample ID: 243844-12 **Date Sampled:** 8/20/2024 12:25
Matrix: Soil **Date Received** 8/21/2024

Zinc	**37.8**	mg/Kg		8/23/2024 14:32

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1221	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1232	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1242	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1248	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1254	**0.186**	mg/Kg		8/23/2024 23:05
PCB-1260	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1262	< 0.164	mg/Kg		8/23/2024 23:05
PCB-1268	< 0.164	mg/Kg		8/23/2024 23:05

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**87.5**	16.1 - 102		8/23/2024 23:05

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 304	ug/Kg		8/27/2024 16:54
1,2,4,5-Tetrachlorobenzene	< 304	ug/Kg		8/27/2024 16:54
1,2,4-Trichlorobenzene	< 304	ug/Kg		8/27/2024 16:54
1,2-Dichlorobenzene	< 304	ug/Kg		8/27/2024 16:54
1,3-Dichlorobenzene	< 304	ug/Kg		8/27/2024 16:54
1,4-Dichlorobenzene	< 304	ug/Kg		8/27/2024 16:54
2,2-Oxybis (1-chloropropane)	< 304	ug/Kg		8/27/2024 16:54
2,3,4,6-Tetrachlorophenol	< 304	ug/Kg		8/27/2024 16:54

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-12
Lab Sample ID: 243844-12 **Date Sampled:** 8/20/2024 12:25
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 304	ug/Kg	8/27/2024 16:54
2,4,6-Trichlorophenol	< 304	ug/Kg	8/27/2024 16:54
2,4-Dichlorophenol	< 304	ug/Kg	8/27/2024 16:54
2,4-Dimethylphenol	< 304	ug/Kg	8/27/2024 16:54
2,4-Dinitrophenol	< 1220	ug/Kg	8/27/2024 16:54
2,4-Dinitrotoluene	< 304	ug/Kg	8/27/2024 16:54
2,6-Dinitrotoluene	< 304	ug/Kg	8/27/2024 16:54
2-Chloronaphthalene	< 304	ug/Kg	8/27/2024 16:54
2-Chlorophenol	< 304	ug/Kg	8/27/2024 16:54
2-Methylnapthalene	< 304	ug/Kg	8/27/2024 16:54
2-Methylphenol	< 304	ug/Kg	8/27/2024 16:54
2-Nitroaniline	< 304	ug/Kg	8/27/2024 16:54
2-Nitrophenol	< 304	ug/Kg	8/27/2024 16:54
3&4-Methylphenol	< 304	ug/Kg	8/27/2024 16:54
3,3'-Dichlorobenzidine	< 304	ug/Kg	8/27/2024 16:54
3-Nitroaniline	< 304	ug/Kg	8/27/2024 16:54
4,6-Dinitro-2-methylphenol	< 609	ug/Kg	8/27/2024 16:54
4-Bromophenyl phenyl ether	< 304	ug/Kg	8/27/2024 16:54
4-Chloro-3-methylphenol	< 304	ug/Kg	8/27/2024 16:54
4-Chloroaniline	< 304	ug/Kg	8/27/2024 16:54
4-Chlorophenyl phenyl ether	< 304	ug/Kg	8/27/2024 16:54
4-Nitroaniline	< 304	ug/Kg	8/27/2024 16:54
4-Nitrophenol	< 304	ug/Kg	8/27/2024 16:54
Acenaphthene	< 304	ug/Kg	8/27/2024 16:54
Acenaphthylene	< 304	ug/Kg	8/27/2024 16:54
Acetophenone	< 304	ug/Kg	8/27/2024 16:54
Anthracene	< 304	ug/Kg	8/27/2024 16:54
Atrazine	< 304	ug/Kg	8/27/2024 16:54
Benzaldehyde	< 304	ug/Kg	8/27/2024 16:54
Benzo (a) anthracene	**447**	ug/Kg	8/27/2024 16:54

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-12		
Lab Sample ID:	243844-12	**Date Sampled:** 8/20/2024	12:25
Matrix:	Soil	**Date Received** 8/21/2024	

Benzo (a) pyrene	**717**	ug/Kg	8/27/2024	16:54
Benzo (b) fluoranthene	**597**	ug/Kg	8/27/2024	16:54
Benzo (g,h,i) perylene	**484**	ug/Kg	8/27/2024	16:54
Benzo (k) fluoranthene	**553**	ug/Kg	8/27/2024	16:54
Bis (2-chloroethoxy) methane	< 304	ug/Kg	8/27/2024	16:54
Bis (2-chloroethyl) ether	< 304	ug/Kg	8/27/2024	16:54
Bis (2-ethylhexyl) phthalate	< 304	ug/Kg	8/27/2024	16:54
Butylbenzylphthalate	< 304	ug/Kg	8/27/2024	16:54
Caprolactam	< 304	ug/Kg	8/27/2024	16:54
Carbazole	< 304	ug/Kg	8/27/2024	16:54
Chrysene	**554**	ug/Kg	8/27/2024	16:54
Dibenz (a,h) anthracene	< 304	ug/Kg	8/27/2024	16:54
Dibenzofuran	< 304	ug/Kg	8/27/2024	16:54
Diethyl phthalate	< 304	ug/Kg	8/27/2024	16:54
Dimethyl phthalate	< 304	ug/Kg	8/27/2024	16:54
Di-n-butyl phthalate	< 304	ug/Kg	8/27/2024	16:54
Di-n-octylphthalate	< 304	ug/Kg	8/27/2024	16:54
Fluoranthene	**580**	ug/Kg	8/27/2024	16:54
Fluorene	< 304	ug/Kg	8/27/2024	16:54
Hexachlorobenzene	< 304	ug/Kg	8/27/2024	16:54
Hexachlorobutadiene	< 304	ug/Kg	8/27/2024	16:54
Hexachlorocyclopentadiene	< 1220	ug/Kg	8/27/2024	16:54
Hexachloroethane	< 304	ug/Kg	8/27/2024	16:54
Indeno (1,2,3-cd) pyrene	**504**	ug/Kg	8/27/2024	16:54
Isophorone	< 304	ug/Kg	8/27/2024	16:54
Naphthalene	< 304	ug/Kg	8/27/2024	16:54
Nitrobenzene	< 304	ug/Kg	8/27/2024	16:54
N-Nitroso-di-n-propylamine	< 304	ug/Kg	8/27/2024	16:54
N-Nitrosodiphenylamine	< 304	ug/Kg	8/27/2024	16:54
Pentachlorophenol	< 609	ug/Kg	8/27/2024	16:54

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-12
Lab Sample ID: 243844-12 **Date Sampled:** 8/20/2024 12:25
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	< 304	ug/Kg		8/27/2024 16:54
Phenol	< 304	ug/Kg		8/27/2024 16:54
Pyrene	**606**	ug/Kg		8/27/2024 16:54

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**68.1**	34.3 - 95.6		8/27/2024 16:54
2-Fluorobiphenyl	**66.5**	37.9 - 87.2		8/27/2024 16:54
2-Fluorophenol	**69.6**	34.4 - 80.5		8/27/2024 16:54
Nitrobenzene-d5	**61.0**	33.2 - 82.1		8/27/2024 16:54
Phenol-d5	**74.7**	36.4 - 85.4		8/27/2024 16:54
Terphenyl-d14	**73.5**	45.9 - 96		8/27/2024 16:54

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73438.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-13		
Lab Sample ID:	243844-13	**Date Sampled:** 8/20/2024	12:30
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0206**	mg/Kg		8/26/2024 16:16

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**1740**	mg/Kg		8/23/2024 14:35
Antimony	< 2.91	mg/Kg		8/23/2024 14:35
Arsenic	**2.37**	mg/Kg		8/23/2024 14:35
Barium	**6.20**	mg/Kg		8/23/2024 14:35
Beryllium	< 0.243	mg/Kg		8/23/2024 14:35
Cadmium	< 0.243	mg/Kg		8/23/2024 14:35
Calcium	**136000**	mg/Kg		8/23/2024 16:22
Chromium	**5.42**	mg/Kg		8/23/2024 14:35
Cobalt	< 2.43	mg/Kg		8/23/2024 14:35
Copper	**7.20**	mg/Kg		8/23/2024 14:35
Iron	**2940**	mg/Kg		8/23/2024 14:35
Lead	**8.32**	mg/Kg		8/23/2024 14:35
Magnesium	**3620**	mg/Kg		8/23/2024 14:35
Manganese	**91.5**	mg/Kg		8/23/2024 14:35
Nickel	**7.14**	mg/Kg		8/23/2024 14:35
Potassium	**836**	mg/Kg		8/23/2024 14:35
Selenium	< 0.971	mg/Kg		8/23/2024 14:35
Silver	< 0.485	mg/Kg		8/23/2024 14:35
Sodium	**189**	mg/Kg		8/23/2024 14:35
Thallium	< 1.21	mg/Kg		8/23/2024 14:35
Vanadium	**6.55**	mg/Kg		8/23/2024 14:35

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-13
Lab Sample ID: 243844-13 **Date Sampled:** 8/20/2024 12:30
Matrix: Soil **Date Received** 8/21/2024

Zinc	**35.5**	mg/Kg		8/23/2024 14:35

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1221	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1232	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1242	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1248	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1254	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1260	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1262	< 0.163	mg/Kg		8/24/2024 02:10
PCB-1268	< 0.163	mg/Kg		8/24/2024 02:10

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**85.4**	16.1 - 102		8/24/2024 02:10

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 284	ug/Kg		8/27/2024 17:24
1,2,4,5-Tetrachlorobenzene	< 284	ug/Kg		8/27/2024 17:24
1,2,4-Trichlorobenzene	< 284	ug/Kg		8/27/2024 17:24
1,2-Dichlorobenzene	< 284	ug/Kg		8/27/2024 17:24
1,3-Dichlorobenzene	< 284	ug/Kg		8/27/2024 17:24
1,4-Dichlorobenzene	< 284	ug/Kg		8/27/2024 17:24
2,2-Oxybis (1-chloropropane)	< 284	ug/Kg		8/27/2024 17:24
2,3,4,6-Tetrachlorophenol	< 284	ug/Kg		8/27/2024 17:24

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-13
Lab Sample ID: 243844-13 **Date Sampled:** 8/20/2024 12:30
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 284	ug/Kg	8/27/2024 17:24
2,4,6-Trichlorophenol	< 284	ug/Kg	8/27/2024 17:24
2,4-Dichlorophenol	< 284	ug/Kg	8/27/2024 17:24
2,4-Dimethylphenol	< 284	ug/Kg	8/27/2024 17:24
2,4-Dinitrophenol	< 1140	ug/Kg	8/27/2024 17:24
2,4-Dinitrotoluene	< 284	ug/Kg	8/27/2024 17:24
2,6-Dinitrotoluene	< 284	ug/Kg	8/27/2024 17:24
2-Chloronaphthalene	< 284	ug/Kg	8/27/2024 17:24
2-Chlorophenol	< 284	ug/Kg	8/27/2024 17:24
2-Methylnapthalene	< 284	ug/Kg	8/27/2024 17:24
2-Methylphenol	< 284	ug/Kg	8/27/2024 17:24
2-Nitroaniline	< 284	ug/Kg	8/27/2024 17:24
2-Nitrophenol	< 284	ug/Kg	8/27/2024 17:24
3&4-Methylphenol	< 284	ug/Kg	8/27/2024 17:24
3,3'-Dichlorobenzidine	< 284	ug/Kg	8/27/2024 17:24
3-Nitroaniline	< 284	ug/Kg	8/27/2024 17:24
4,6-Dinitro-2-methylphenol	< 569	ug/Kg	8/27/2024 17:24
4-Bromophenyl phenyl ether	< 284	ug/Kg	8/27/2024 17:24
4-Chloro-3-methylphenol	< 284	ug/Kg	8/27/2024 17:24
4-Chloroaniline	< 284	ug/Kg	8/27/2024 17:24
4-Chlorophenyl phenyl ether	< 284	ug/Kg	8/27/2024 17:24
4-Nitroaniline	< 284	ug/Kg	8/27/2024 17:24
4-Nitrophenol	< 284	ug/Kg	8/27/2024 17:24
Acenaphthene	< 284	ug/Kg	8/27/2024 17:24
Acenaphthylene	< 284	ug/Kg	8/27/2024 17:24
Acetophenone	< 284	ug/Kg	8/27/2024 17:24
Anthracene	< 284	ug/Kg	8/27/2024 17:24
Atrazine	< 284	ug/Kg	8/27/2024 17:24
Benzaldehyde	< 284	ug/Kg	8/27/2024 17:24
Benzo (a) anthracene	< 284	ug/Kg	8/27/2024 17:24

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-13
Lab Sample ID: 243844-13 **Date Sampled:** 8/20/2024 12:30
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	< 284	ug/Kg	8/27/2024 17:24
Benzo (b) fluoranthene	< 284	ug/Kg	8/27/2024 17:24
Benzo (g,h,i) perylene	< 284	ug/Kg	8/27/2024 17:24
Benzo (k) fluoranthene	< 284	ug/Kg	8/27/2024 17:24
Bis (2-chloroethoxy) methane	< 284	ug/Kg	8/27/2024 17:24
Bis (2-chloroethyl) ether	< 284	ug/Kg	8/27/2024 17:24
Bis (2-ethylhexyl) phthalate	< 284	ug/Kg	8/27/2024 17:24
Butylbenzylphthalate	< 284	ug/Kg	8/27/2024 17:24
Caprolactam	< 284	ug/Kg	8/27/2024 17:24
Carbazole	< 284	ug/Kg	8/27/2024 17:24
Chrysene	< 284	ug/Kg	8/27/2024 17:24
Dibenz (a,h) anthracene	< 284	ug/Kg	8/27/2024 17:24
Dibenzofuran	< 284	ug/Kg	8/27/2024 17:24
Diethyl phthalate	< 284	ug/Kg	8/27/2024 17:24
Dimethyl phthalate	< 284	ug/Kg	8/27/2024 17:24
Di-n-butyl phthalate	< 284	ug/Kg	8/27/2024 17:24
Di-n-octylphthalate	< 284	ug/Kg	8/27/2024 17:24
Fluoranthene	< 284	ug/Kg	8/27/2024 17:24
Fluorene	< 284	ug/Kg	8/27/2024 17:24
Hexachlorobenzene	< 284	ug/Kg	8/27/2024 17:24
Hexachlorobutadiene	< 284	ug/Kg	8/27/2024 17:24
Hexachlorocyclopentadiene	< 1140	ug/Kg	8/27/2024 17:24
Hexachloroethane	< 284	ug/Kg	8/27/2024 17:24
Indeno (1,2,3-cd) pyrene	< 284	ug/Kg	8/27/2024 17:24
Isophorone	< 284	ug/Kg	8/27/2024 17:24
Naphthalene	< 284	ug/Kg	8/27/2024 17:24
Nitrobenzene	< 284	ug/Kg	8/27/2024 17:24
N-Nitroso-di-n-propylamine	< 284	ug/Kg	8/27/2024 17:24
N-Nitrosodiphenylamine	< 284	ug/Kg	8/27/2024 17:24
Pentachlorophenol	< 569	ug/Kg	8/27/2024 17:24

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-13
Lab Sample ID: 243844-13 **Date Sampled:** 8/20/2024 12:30
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	< 284	ug/Kg		8/27/2024 17:24
Phenol	< 284	ug/Kg		8/27/2024 17:24
Pyrene	< 284	ug/Kg		8/27/2024 17:24

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**77.1**	34.3 - 95.6		8/27/2024 17:24
2-Fluorobiphenyl	**71.4**	37.9 - 87.2		8/27/2024 17:24
2-Fluorophenol	**71.9**	34.4 - 80.5		8/27/2024 17:24
Nitrobenzene-d5	**67.3**	33.2 - 82.1		8/27/2024 17:24
Phenol-d5	**77.2**	36.4 - 85.4		8/27/2024 17:24
Terphenyl-d14	**79.0**	45.9 - 96		8/27/2024 17:24

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73439.D

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier:	SS-14		
Lab Sample ID:	243844-14	**Date Sampled:** 8/20/2024	12:40
Matrix:	Soil	**Date Received** 8/21/2024	

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0165**	mg/Kg		8/26/2024 16:18

Method Reference(s): EPA 7471B
Preparation Date: 8/26/2024
Data File: Hg240826B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**4810**	mg/Kg		8/23/2024 14:39
Antimony	< 3.01	mg/Kg		8/23/2024 14:39
Arsenic	**8.62**	mg/Kg		8/23/2024 14:39
Barium	**21.0**	mg/Kg		8/23/2024 14:39
Beryllium	< 0.251	mg/Kg		8/23/2024 14:39
Cadmium	**0.281**	mg/Kg		8/23/2024 14:39
Calcium	**207000**	mg/Kg		8/23/2024 16:25
Chromium	**9.81**	mg/Kg		8/23/2024 14:39
Cobalt	< 2.51	mg/Kg		8/23/2024 14:39
Copper	**10.4**	mg/Kg		8/23/2024 14:39
Iron	**5200**	mg/Kg		8/23/2024 14:39
Lead	**12.0**	mg/Kg		8/23/2024 14:39
Magnesium	**8450**	mg/Kg		8/23/2024 14:39
Manganese	**96.8**	mg/Kg		8/23/2024 14:39
Nickel	**9.99**	mg/Kg		8/23/2024 14:39
Potassium	**2540**	mg/Kg		8/23/2024 14:39
Selenium	< 1.00	mg/Kg		8/23/2024 14:39
Silver	< 0.502	mg/Kg		8/23/2024 14:39
Sodium	**265**	mg/Kg		8/23/2024 14:39
Thallium	< 1.26	mg/Kg		8/23/2024 14:39
Vanadium	**12.2**	mg/Kg		8/23/2024 14:39

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Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-14
Lab Sample ID: 243844-14 **Date Sampled:** 8/20/2024 12:40
Matrix: Soil **Date Received** 8/21/2024

Zinc	**34.7**	mg/Kg		8/23/2024 14:39

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 8/22/2024
Data File: 240823A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1221	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1232	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1242	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1248	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1254	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1260	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1262	< 0.131	mg/Kg		8/24/2024 02:33
PCB-1268	< 0.131	mg/Kg		8/24/2024 02:33

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**80.4**	16.1 - 102		8/24/2024 02:33

Method Reference(s): EPA 8082A
EPA 3546
Preparation Date: 8/23/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 295	ug/Kg		8/27/2024 17:53
1,2,4,5-Tetrachlorobenzene	< 295	ug/Kg		8/27/2024 17:53
1,2,4-Trichlorobenzene	< 295	ug/Kg		8/27/2024 17:53
1,2-Dichlorobenzene	< 295	ug/Kg		8/27/2024 17:53
1,3-Dichlorobenzene	< 295	ug/Kg		8/27/2024 17:53
1,4-Dichlorobenzene	< 295	ug/Kg		8/27/2024 17:53
2,2-Oxybis (1-chloropropane)	< 295	ug/Kg		8/27/2024 17:53
2,3,4,6-Tetrachlorophenol	< 295	ug/Kg		8/27/2024 17:53

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-14
Lab Sample ID: 243844-14 **Date Sampled:** 8/20/2024 12:40
Matrix: Soil **Date Received** 8/21/2024

2,4,5-Trichlorophenol	< 295	ug/Kg	8/27/2024 17:53
2,4,6-Trichlorophenol	< 295	ug/Kg	8/27/2024 17:53
2,4-Dichlorophenol	< 295	ug/Kg	8/27/2024 17:53
2,4-Dimethylphenol	< 295	ug/Kg	8/27/2024 17:53
2,4-Dinitrophenol	< 1180	ug/Kg	8/27/2024 17:53
2,4-Dinitrotoluene	< 295	ug/Kg	8/27/2024 17:53
2,6-Dinitrotoluene	< 295	ug/Kg	8/27/2024 17:53
2-Chloronaphthalene	< 295	ug/Kg	8/27/2024 17:53
2-Chlorophenol	< 295	ug/Kg	8/27/2024 17:53
2-Methylnapthalene	< 295	ug/Kg	8/27/2024 17:53
2-Methylphenol	< 295	ug/Kg	8/27/2024 17:53
2-Nitroaniline	< 295	ug/Kg	8/27/2024 17:53
2-Nitrophenol	< 295	ug/Kg	8/27/2024 17:53
3&4-Methylphenol	< 295	ug/Kg	8/27/2024 17:53
3,3'-Dichlorobenzidine	< 295	ug/Kg	8/27/2024 17:53
3-Nitroaniline	< 295	ug/Kg	8/27/2024 17:53
4,6-Dinitro-2-methylphenol	< 590	ug/Kg	8/27/2024 17:53
4-Bromophenyl phenyl ether	< 295	ug/Kg	8/27/2024 17:53
4-Chloro-3-methylphenol	< 295	ug/Kg	8/27/2024 17:53
4-Chloroaniline	< 295	ug/Kg	8/27/2024 17:53
4-Chlorophenyl phenyl ether	< 295	ug/Kg	8/27/2024 17:53
4-Nitroaniline	< 295	ug/Kg	8/27/2024 17:53
4-Nitrophenol	< 295	ug/Kg	8/27/2024 17:53
Acenaphthene	< 295	ug/Kg	8/27/2024 17:53
Acenaphthylene	< 295	ug/Kg	8/27/2024 17:53
Acetophenone	< 295	ug/Kg	8/27/2024 17:53
Anthracene	< 295	ug/Kg	8/27/2024 17:53
Atrazine	< 295	ug/Kg	8/27/2024 17:53
Benzaldehyde	< 295	ug/Kg	8/27/2024 17:53
Benzo (a) anthracene	**592**	ug/Kg	8/27/2024 17:53

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-14
Lab Sample ID: 243844-14 **Date Sampled:** 8/20/2024 12:40
Matrix: Soil **Date Received** 8/21/2024

Benzo (a) pyrene	**1060**	ug/Kg	8/27/2024 17:53
Benzo (b) fluoranthene	**997**	ug/Kg	8/27/2024 17:53
Benzo (g,h,i) perylene	**754**	ug/Kg	8/27/2024 17:53
Benzo (k) fluoranthene	**697**	ug/Kg	8/27/2024 17:53
Bis (2-chloroethoxy) methane	< 295	ug/Kg	8/27/2024 17:53
Bis (2-chloroethyl) ether	< 295	ug/Kg	8/27/2024 17:53
Bis (2-ethylhexyl) phthalate	< 295	ug/Kg	8/27/2024 17:53
Butylbenzylphthalate	< 295	ug/Kg	8/27/2024 17:53
Caprolactam	< 295	ug/Kg	8/27/2024 17:53
Carbazole	< 295	ug/Kg	8/27/2024 17:53
Chrysene	**803**	ug/Kg	8/27/2024 17:53
Dibenz (a,h) anthracene	< 295	ug/Kg	8/27/2024 17:53
Dibenzofuran	< 295	ug/Kg	8/27/2024 17:53
Diethyl phthalate	< 295	ug/Kg	8/27/2024 17:53
Dimethyl phthalate	< 295	ug/Kg	8/27/2024 17:53
Di-n-butyl phthalate	< 295	ug/Kg	8/27/2024 17:53
Di-n-octylphthalate	< 295	ug/Kg	8/27/2024 17:53
Fluoranthene	**713**	ug/Kg	8/27/2024 17:53
Fluorene	< 295	ug/Kg	8/27/2024 17:53
Hexachlorobenzene	< 295	ug/Kg	8/27/2024 17:53
Hexachlorobutadiene	< 295	ug/Kg	8/27/2024 17:53
Hexachlorocyclopentadiene	< 1180	ug/Kg	8/27/2024 17:53
Hexachloroethane	< 295	ug/Kg	8/27/2024 17:53
Indeno (1,2,3-cd) pyrene	**767**	ug/Kg	8/27/2024 17:53
Isophorone	< 295	ug/Kg	8/27/2024 17:53
Naphthalene	< 295	ug/Kg	8/27/2024 17:53
Nitrobenzene	< 295	ug/Kg	8/27/2024 17:53
N-Nitroso-di-n-propylamine	< 295	ug/Kg	8/27/2024 17:53
N-Nitrosodiphenylamine	< 295	ug/Kg	8/27/2024 17:53
Pentachlorophenol	< 590	ug/Kg	8/27/2024 17:53

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 243844

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: 631 Northland Ave

Sample Identifier: SS-14
Lab Sample ID: 243844-14 **Date Sampled:** 8/20/2024 12:40
Matrix: Soil **Date Received** 8/21/2024

Phenanthrene	< 295	ug/Kg		8/27/2024 17:53
Phenol	< 295	ug/Kg		8/27/2024 17:53
Pyrene	**779**	ug/Kg		8/27/2024 17:53

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**68.4**	34.3 - 95.6		8/27/2024 17:53
2-Fluorobiphenyl	**67.0**	37.9 - 87.2		8/27/2024 17:53
2-Fluorophenol	**65.5**	34.4 - 80.5		8/27/2024 17:53
Nitrobenzene-d5	**62.1**	33.2 - 82.1		8/27/2024 17:53
Phenol-d5	**70.7**	36.4 - 85.4		8/27/2024 17:53
Terphenyl-d14	**73.8**	45.9 - 96		8/27/2024 17:53

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73440.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Method Blank Report

Client: **Ravi Engineering & Land Surveying, P.C.**
Project Reference: 631 Northland Ave
Lab Project ID: 243844
Matrix: Soil

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1-Biphenyl	<282	ug/Kg		8/26/2024	18:57
1,2,4,5-Tetrachlorobenzene	<282	ug/Kg		8/26/2024	18:57
1,2,4-Trichlorobenzene	<282	ug/Kg		8/26/2024	18:57
1,2-Dichlorobenzene	<282	ug/Kg		8/26/2024	18:57
1,3-Dichlorobenzene	<282	ug/Kg		8/26/2024	18:57
1,4-Dichlorobenzene	<282	ug/Kg		8/26/2024	18:57
2,2-Oxybis (1-chloropropane)	<282	ug/Kg		8/26/2024	18:57
2,3,4,6-Tetrachlorophenol	<282	ug/Kg		8/26/2024	18:57
2,4,5-Trichlorophenol	<282	ug/Kg		8/26/2024	18:57
2,4,6-Trichlorophenol	<282	ug/Kg		8/26/2024	18:57
2,4-Dichlorophenol	<282	ug/Kg		8/26/2024	18:57
2,4-Dimethylphenol	<282	ug/Kg		8/26/2024	18:57
2,4-Dinitrophenol	<1130	ug/Kg		8/26/2024	18:57
2,4-Dinitrotoluene	<282	ug/Kg		8/26/2024	18:57
2,6-Dinitrotoluene	<282	ug/Kg		8/26/2024	18:57
2-Chloronaphthalene	<282	ug/Kg		8/26/2024	18:57
2-Chlorophenol	<282	ug/Kg		8/26/2024	18:57
2-Methylnapthalene	<282	ug/Kg		8/26/2024	18:57
2-Methylphenol	<282	ug/Kg		8/26/2024	18:57
2-Nitroaniline	<282	ug/Kg		8/26/2024	18:57
2-Nitrophenol	<282	ug/Kg		8/26/2024	18:57
3&4-Methylphenol	<282	ug/Kg		8/26/2024	18:57
3,3'-Dichlorobenzidine	<282	ug/Kg		8/26/2024	18:57
3-Nitroaniline	<282	ug/Kg		8/26/2024	18:57
4,6-Dinitro-2-methylphenol	<565	ug/Kg		8/26/2024	18:57
4-Bromophenyl phenyl ether	<282	ug/Kg		8/26/2024	18:57
4-Chloro-3-methylphenol	<282	ug/Kg		8/26/2024	18:57

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Method Blank Report

Client: **Ravi Engineering & Land Surveying, P.C.**
Project Reference: 631 Northland Ave
Lab Project ID: 243844
Matrix: Soil

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed	
4-Chloroaniline	<282	ug/Kg		8/26/2024	18:57
4-Chlorophenyl phenyl ether	<282	ug/Kg		8/26/2024	18:57
4-Nitroaniline	<282	ug/Kg		8/26/2024	18:57
4-Nitrophenol	<282	ug/Kg		8/26/2024	18:57
Acenaphthene	<282	ug/Kg		8/26/2024	18:57
Acenaphthylene	<282	ug/Kg		8/26/2024	18:57
Acetophenone	<282	ug/Kg		8/26/2024	18:57
Anthracene	<282	ug/Kg		8/26/2024	18:57
Atrazine	<282	ug/Kg		8/26/2024	18:57
Benzaldehyde	<282	ug/Kg		8/26/2024	18:57
Benzo (a) anthracene	<282	ug/Kg		8/26/2024	18:57
Benzo (a) pyrene	<282	ug/Kg		8/26/2024	18:57
Benzo (b) fluoranthene	<282	ug/Kg		8/26/2024	18:57
Benzo (g,h,i) perylene	<282	ug/Kg		8/26/2024	18:57
Benzo (k) fluoranthene	<282	ug/Kg		8/26/2024	18:57
Bis (2-chloroethoxy) methane	<282	ug/Kg		8/26/2024	18:57
Bis (2-chloroethyl) ether	<282	ug/Kg		8/26/2024	18:57
Bis (2-ethylhexyl) phthalate	<282	ug/Kg		8/26/2024	18:57
Butylbenzylphthalate	<282	ug/Kg		8/26/2024	18:57
Caprolactam	<282	ug/Kg		8/26/2024	18:57
Carbazole	<282	ug/Kg		8/26/2024	18:57
Chrysene	<282	ug/Kg		8/26/2024	18:57
Dibenz (a,h) anthracene	<282	ug/Kg		8/26/2024	18:57
Dibenzofuran	<282	ug/Kg		8/26/2024	18:57
Diethyl phthalate	<282	ug/Kg		8/26/2024	18:57
Dimethyl phthalate	<282	ug/Kg		8/26/2024	18:57
Di-n-butyl phthalate	<282	ug/Kg		8/26/2024	18:57
Di-n-octylphthalate	<282	ug/Kg		8/26/2024	18:57

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PARADIGM ENVIRONMENTAL SERVICES, INC.

Method Blank Report

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Lab Project ID: 243844

Matrix: Soil

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
Fluoranthene	<282	ug/Kg		8/26/2024 18:57
Fluorene	<282	ug/Kg		8/26/2024 18:57
Hexachlorobenzene	<282	ug/Kg		8/26/2024 18:57
Hexachlorobutadiene	<282	ug/Kg		8/26/2024 18:57
Hexachlorocyclopentadiene	<1130	ug/Kg		8/26/2024 18:57
Hexachloroethane	<282	ug/Kg		8/26/2024 18:57
Indeno (1,2,3-cd) pyrene	<282	ug/Kg		8/26/2024 18:57
Isophorone	<282	ug/Kg		8/26/2024 18:57
Naphthalene	<282	ug/Kg		8/26/2024 18:57
Nitrobenzene	<282	ug/Kg		8/26/2024 18:57
N-Nitroso-di-n-propylamine	<282	ug/Kg		8/26/2024 18:57
N-Nitrosodiphenylamine	<282	ug/Kg		8/26/2024 18:57
Pentachlorophenol	<565	ug/Kg		8/26/2024 18:57
Phenanthrene	<282	ug/Kg		8/26/2024 18:57
Phenol	<282	ug/Kg		8/26/2024 18:57
Pyrene	<282	ug/Kg		8/26/2024 18:57

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**65.5**	34.3 - 95.6		8/26/2024 18:57
2-Fluorobiphenyl	**61.8**	37.9 - 87.2		8/26/2024 18:57
2-Fluorophenol	**62.7**	34.4 - 80.5		8/26/2024 18:57
Nitrobenzene-d5	**59.4**	33.2 - 82.1		8/26/2024 18:57
Phenol-d5	**68.1**	36.4 - 85.4		8/26/2024 18:57
Terphenyl-d14	**75.4**	45.9 - 96		8/26/2024 18:57

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73413.D
QC Batch ID: QC240823ABNS
QC Number: Blk 1

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Laboratory Control Sample

Client: Ravi Engineering & Land Surveying, P.C.
Project Reference: 631 Northland Ave
Lab Project ID: 243844
Matrix: Soil

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Spike Added	Spike Units	LCS Result	LCS % Recovery	% Rec Limits	LCS Outliers	Date Analyzed
1,2,4-Trichlorobenzene	2630	ug/Kg	1190	45.2	37.7 - 80.4		8/26/2024
1,4-Dichlorobenzene	2630	ug/Kg	1110	42.3	34.3 - 75.3		8/26/2024
2,3,4,6-Tetrachlorophenol	3950	ug/Kg	2780	70.5	44.8 - 86.1		8/26/2024
2,4,6-Trichlorophenol	3950	ug/Kg	2830	71.7	46.6 - 92.6		8/26/2024
2,4-Dichlorophenol	3950	ug/Kg	2760	69.8	45.6 - 89.4		8/26/2024
2,4-Dimethylphenol	3950	ug/Kg	1860	47.2	31.6 - 93.8		8/26/2024
2,4-Dinitrophenol	3950	ug/Kg	2460	62.4	10 - 73.8		8/26/2024
2,4-Dinitrotoluene	2630	ug/Kg	1380	52.3	41 - 91.2		8/26/2024
2-Chlorophenol	3950	ug/Kg	2660	67.5	43.6 - 84.3		8/26/2024
2-Nitrophenol	3950	ug/Kg	2780	70.4	41.3 - 85.8		8/26/2024
4,6-Dinitro-2-methylphenol	3950	ug/Kg	2620	66.3	20.9 - 88.5		8/26/2024
4-Chloro-3-methylphenol	3950	ug/Kg	2980	75.4	47.7 - 92.8		8/26/2024
4-Nitrophenol	3950	ug/Kg	3070	77.8	37.1 - 94.4		8/26/2024
Acenaphthene	2630	ug/Kg	1300	49.4	42.5 - 87.3		8/26/2024
N-Nitroso-di-n-propylamine	2630	ug/Kg	1310	49.7	39.1 - 84.2		8/26/2024
Pentachlorophenol	3950	ug/Kg	3050	77.3	36.6 - 103		8/26/2024

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Thursday, August 29, 2024

PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Laboratory Control Sample

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 631 Northland Ave

Lab Project ID: 243844

Matrix: Soil

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Spike Added	Spike Units	LCS Result	LCS % Recovery	% Rec Limits	LCS Outliers	Date Analyzed
Phenol	3950	ug/Kg	2690	68.0	44.2 - 85.3		8/26/2024
Pyrene	2630	ug/Kg	1450	55.2	48 - 97		8/26/2024

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File: B73414.D
QC Number: LCS 1
QC Batch ID: QC240823ABNS

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared *Thursday, August 29, 2024*

PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Matrix Spike and Matrix Spike Duplicate

Client: Ravi Engineering & Land Surveying, P.C. **Lab Project ID:** 243844

Project Reference: 631 Northland Ave

Lab Sample ID: 243844-07
Sample Identifier: SS-7
Matrix: Soil

Date Sampled: 8/20/2024
Date Received: 8/21/2024
Date Analyzed: 8/27/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Sample Result	Result Units	MS Added	MS Result	MS % Recovery	MSD Added	MSD Result	MSD % Recovery	% Rec. Limits	MS Outlier	MSD Outlier	Relative % Diff.	RPD Limit	RPD Outlier
1,2,4-Trichlorobenzene	< 302	ug/Kg	3120	1920	61.5	2940	1540	52.3	37.7 - 80.4			16.1	55.2	
1,4-Dichlorobenzene	< 302	ug/Kg	3120	1740	55.8	2940	1390	47.3	34.3 - 75.3			16.5	60.9	
2,3,4,6-Tetrachlorophenol	< 302	ug/Kg	4690	2670	56.9	4410	1960	44.5	44.8 - 86.1		*	24.6	42.3	
2,4,6-Trichlorophenol	< 302	ug/Kg	4690	2980	63.6	4410	2190	49.6	46.6 - 92.6			24.7	43.6	
2,4-Dichlorophenol	< 302	ug/Kg	4690	3000	63.9	4410	2250	51.1	45.6 - 89.4			22.3	42.5	
2,4-Dimethylphenol	< 302	ug/Kg	4690	1760	37.6	4410	1240	28.1	31.6 - 93.8		*	29.0	59.4	
2,4-Dinitrophenol	< 1210	ug/Kg	4690	900	19.2	4410	659	14.9	10 - 73.8			25.1	114	
2,4-Dinitrotoluene	< 302	ug/Kg	3120	1920	61.5	2940	1360	46.3	41 - 91.2			28.1	53.6	
2-Chlorophenol	< 302	ug/Kg	4690	2870	61.3	4410	2100	47.6	43.6 - 84.3			25.2	42.8	
2-Nitrophenol	< 302	ug/Kg	4690	2740	58.5	4410	1820	41.2	41.3 - 85.8		*	34.7	44.5	
4,6-Dinitro-2-methylphenol	< 604	ug/Kg	4690	1500	32.0	4410	1010	22.9	20.9 - 88.5			33.2	92.8	
4-Chloro-3-methylphenol	< 302	ug/Kg	4690	3240	69.1	4410	2410	54.6	47.7 - 92.8			23.5	41.8	
4-Nitrophenol	< 302	ug/Kg	4690	3350	71.4	4410	2620	59.4	37.1 - 94.4			18.3	45.6	
Acenaphthene	**1130**	ug/Kg	3120	2670	49.3	2940	2050	31.5	42.5 - 87.3		*	44.1	50.3	

Any estimated values are displayed, and derived values calculated, based on numeric result only. See primary analytical report for data flags.

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Report Prepared Thursday, August 29, 2024

PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Matrix Spike and Matrix Spike Duplicate

Client: Ravi Engineering & Land Surveying, P.C. **Lab Project ID:** 243844

Project Reference: 631 Northland Ave

Lab Sample ID: 243844-07
Sample Identifier: SS-7
Matrix: Soil

Date Sampled: 8/20/2024
Date Received: 8/21/2024
Date Analyzed: 8/27/2024

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Sample Result	Result Units	MS Added	MS Result	MS % Recovery	MSD Added	MSD Result	MSD % Recovery	% Rec. Limits	MS Outlier	MSD Outlier	Relative % Diff.	RPD Limit	RPD Outlier
N-Nitroso-di-n-propylamine	< 302	ug/Kg	3120	2070	66.1	2940	1610	54.8	39.1 - 84.2			18.7	52.3	
Pentachlorophenol	< 604	ug/Kg	4690	2280	48.7	4410	1680	38.1	36.6 - 103			24.4	63.6	
Phenol	< 302	ug/Kg	4690	2990	63.9	4410	2240	50.9	44.2 - 85.3			22.7	41.7	
Pyrene	**10600**	ug/Kg	3120	8600	-64.7	2940	6540	-139	48 - 97	*	*	72.8	48	*

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 8/23/2024
Data File(s): B73432.D
B73433.D
B73431.D
1
QC Batch ID: QC240823ABNS

Any estimated values are displayed, and derived values calculated, based on numeric result only. See primary analytical report for data flags.

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Thursday, August 29, 2024

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"H" = Denotes a parameter analyzed outside of holding time.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM
ENVIRONMENTAL SERVICES

REPORT TO:	INVOICE TO:	
COMPANY: RANI ENGINEERING	COMPANY: SAME	LAB PROJECT ID: 243844
address: 2110 S. CLINTON AVE SUITE 1	ADDRESS:	Quotation #:
CITY: ROCHESTER STATE: NY ZIP: 14618	CITY: STATE: ZIP:	Email: lzicari@ravieng.com bredly@ravieng.com
PHONE: FAX:	PHONE: FAX:	
ATTN: BEN REDDY LYNN ZICARI	ATTN:	

PROJECT REFERENCE
631 NORTHLAND AVE

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCL SVOCs	TAL Metals	PCBs	REMARKS	PARADIGM LAB SAMPLE NUMBER
8/20/24	11:00 Am		X	SS-1	SO	1	X	X	X		01
	11:10		X	SS-2			X	X	X		02
	11:20		X	SS-3			X	X	X		03
	11:30		X	SS-4			X	X	X		04
	11:35		X	SS-5			X	X	X		05
	11:40		X	SS-6			X	X	X		06
	11:50		X	SS-7			X	X	X		07
	11:55		X	SS-8			X	X	X		08
	12:00		X	SS-9			X	X	X		09

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	None Required		None Required	
10 day		Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate date needed:		Other please indicate package needed:		Other EDD please indicate EDD needed :	

Sampled By	8/20/24 11:00 Am	Total Cost:
Relinquished By	8/21/24 10:15 Am	
Received By	8/21/24 10:15	P.I.F.
Received @ Lab By	8/21/24 12:50	

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

3°C iced 8/21/24 11:47

See additional page for sample conditions.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES

REPORT TO:		INVOICE TO:	
COMPANY:	RAVI ENGINEERING	COMPANY:	SAME
address:	2110 S. CLINTON AVE STE 1	ADDRESS:	
CITY:	ROCHESTER STATE: NY ZIP: 14618	CITY: STATE: ZIP:	
PHONE:	FAX:	PHONE:	FAX:
ATTN:	ISEN REDDY LYNN ZICARI	ATTN:	

LAB PROJECT ID: 243844

Quotation #:

Email: lzicari@ravieng.com
bfeddy@ravieng.com

PROJECT REFERENCE
631 NORTHLAND AVE

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCL SVOCs	TAL METALS	PCBs							REMARKS	PARADIGM LAB SAMPLE NUMBER
8/20/24	12:10		X	SS-10	SO	1	X	X	X								10
	12:20		X	SS-11			X	X	X								11
	12:25		X	SS-12			X	X	X								12
	12:30		X	SS-13			X	X	X								13
	12:40		X	SS-14			X	X	X								14

Turnaround Time		Report Supplements		
Availability contingent upon lab approval; additional fees may apply.				
Standard 5 day	X	None Required		None Required	
10 day		Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate date needed:		Other please indicate package needed:		Other EDD please indicate EDD needed :	

Sampled By	8/20/24 11:00 AM	Total Cost:
Relinquished By	8/21/24 10:14 AM	
Received By	8/21/24 10:14	P.I.F.
Received @ Lab By	8/21/24 12:50	

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: Ravi Engineering **Completed by:** Cedric Mu

Lab Project ID: 243844 **Date:** 8/21/24

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container	X (-07) 93 → 93 (brown jar)		X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		X metals (except Hg)
Comments	3°C iced		
Compliant Sample Quantity/Type	X		
Comments			