



375 Essjay Road, Suite 200, Williamsville, New York 14221
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ADDENDUM NO. 05

Northland Corridor Redevelopment Project Phase 4
631 Northland Ave.
Buffalo, NY 14211

DATE

November 7, 2025

OWNER

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

ARCHITECT/ENGINEER

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

Project No. 432607

This Addendum is being issued to clarify the bid documents and shall supersede and supplement all portions of previously issued bid documents with which it conflicts. It shall be made an integral part of the construction documents.



375 Essay Road, Suite 200, Williamsville, New York 14221
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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 1

DRAWING NO. N/A

SPEC
SECTION Table of Contents

REPLACE: Specification Table of Contents with the revised issued as part of this addendum.

ARTICLE - 2

DRAWING NO. N/A

SPEC
SECTION 085113 – Aluminum Windows

QUESTION:

Is there a specific hardware requirement for the awning vents, and should there be limit locks? Please provide hardware spec for operable windows.

ANSWER:

Specification Section 085113 Aluminum Windows paragraph 2.6 has been modified to include information for the required hardware.

REPLACE: Section 085113 with the revised issued as part of this addendum.

ARTICLE - 3

DRAWING NO. N/A

SPEC
SECTION N/A

QUESTION:

1. Will the owner be providing air monitoring and testing of soils for the duration of the brownfield cleanup and during the work of this contract?
2. For bidding purposes, what should we bidders assume to do with any water that is pumped during site dewatering? Should we assume that ground and surface water are contaminated?

ANSWER:

1. The owner will provide Community Air Monitoring and any soil sampling required by BCP during intrusive soil work. The contractor is responsible for all testing required for landfill acceptance of excavated soil.
2. Contractor is to manage dewatering effluent in conformance with drawings and specifications. Water disposition must conform to USEPA, NYSDEC and City regulations and requirements. Contractor should assume that testing will be required to show compliance with regulating agency requirements. Contractor shall also refer to Phase II Environmental reports in Specification Appendix for groundwater results.



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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 4

DRAWING NO. A310

SPEC
SECTION N/A

QUESTION: Drawing A310, Note C36

This note states to check the crane to make sure that hydraulic fluid is not leaking. Should an allowance be carried in our pricing in case a repair needs to be made to the crane? If there should be an allowance, what value should be carried?

ANSWER:

The project will not add a crane allowance and contractor should bid as per the documents. Should crane work outside of what has been identified become required, a change in scope will be issued.

ARTICLE - 5

DRAWING NO. S101A-B; S302

SPEC
SECTION N/A

QUESTION:

Per notes 4&5 on S101A-B and 1 S-302 the cleaning and or removing of existing coatings is indicated. Should this be performed as part of the lead abatement? If so, these are not called out on the HM drawings.

ANSWER:

As per the attached environmental reports in Specification Appendix, the paint associated with structural steel is lead containing, not lead based and therefore not required to be removed under abatement conditions.

ARTICLE - 6

DRAWING NO. N/A

SPEC
SECTION N/A



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project	Northland Corridor Redevelopment Phase 4 (BUDC)	Addendum No.	5
	631 Northland Avenue, Buffalo, NY	Contract	-
Wendel Project No.	432607	Date	11/07/2025

QUESTION:

1. When should the site demolition and site work scope indicated on the drawings occur? Should it be before, during, and/or after the brown field work is performed? Per the BCP schedule released in addenda 3 indicates the BCP remediation may not begin until Fall 2026.
2. What subgrade elevations is the brownfield remediation to versus the subgrade elevations our scope includes?
3. Can it be assumed that the BCP contractor will replace any contaminated soils removed from the site with suitable structural fill?

ANSWER:

1. Assume site demolition work to begin in Spring 2026. Once the site remediation design has been completed and approved, coordination with the scope on the bid docs will take place. Should there be any impacts to the site contract scope and fee, a change order will be negotiated.
2. Bids should reflect the information provided on the bid set documents and the Contractor should assume work will start at existing grade. Where we recognize this project has been accepted into the New York State Brownfield Cleanup Program, a remediation plan and associated design has not been finalized. This information will be issued as an addendum to the contracts for construction, when available, and if required a change order will be negotiated.
3. The site contractor should provide a bid that aligns with the scope in the bid documents. Upon completion of the remediation design, coordination on additional scope or changes to scope will be addressed via addendum and a change order. Imported fill materials must be shown to meet NYSDEC imported fill environmental requirements and must be approved for use at the site by NYSDEC prior to placement.

ARTICLE - **7**

DRAWING NO. **A151A & A151B**

SPEC
SECTION **N/A**

QUESTION:

Drawings A151A and A151B reference "New TPO Roof System (see A306)" however drawing A306 is not found in the bid documents received. Where can this drawing be found.

ANSWER:

The note on A151A & A151B should read "New TPO Roof System (see A451)". The updated drawings are attached.

REPLACE: Drawings A151A and A151B with the revised issued as part of this addendum.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project **Northland Corridor Redevelopment Phase 4 (BUDC)** Addendum No. **5**
631 Northland Avenue, Buffalo, NY Contract **-**
Wendel Project No. **432607** Date **11/07/2025**

ARTICLE - **8**

DRAWING NO. **N/A**
SPEC
SECTION **N/A**

QUESTION:

Asbestos flashing and other hazardous materials are called out on the abatement drawings, but it is not noted which will remain and which will be removed. Please confirm which pieces are to be removed and whose responsibility this would fall under.

ANSWER:

The HM-Series has been developed to show areas of removals and impacts. Asbestos-Containing Materials shown on the plans are scheduled for removal. There are no current Asbestos-Containing Materials that are shown for informational purposes only. All Asbestos-Containing Materials shown on the plans shall be removed by a Licensed Abatement Contractor as indicated on the Contract Documents.

ARTICLE - **9**

DRAWING NO. **A900**
SPEC
SECTION **N/A**

QUESTION: There are fire-rated partitions on the plans, but all doors appear to be non-rated. Please confirm this is correct.

ANSWER: Door #7 should have a 90-minute fire rating assigned to it. Please refer to the revised A900 drawing sheet.

REPLACE: Drawing A900 with the revised, issued as part of this addendum.

ARTICLE - **10**

DRAWING NO. **A101A-B, A900**
SPEC
SECTION **N/A**

QUESTION:

1. Doors 04, 15, 16, 18, 20, 22, & 26 and openings 15 thru 26 aren't located on the drawings (A101A and A101B) or Door Schedule (A900). Please provide more information about these openings on what type of cylinder is needed?
2. Door 04 has been assigned to both hardware set 5 and 2. Please confirm that hardware set 2 is the correct hardware set to use.
3. Hardware Set 2: Openings 17 and E12 have been assigned to this hardware set and they cannot be located on drawings A101A and A101B or Door schedule A900. Please provide more information on the locations.

ANSWER

1. Door 04 is located on the A101B drawing sheet. Doors 15, 16, 18, 20, 22, & 26 and openings 15 thru 26 can be ignored.
2. Door 04 should be Hardware set #2.
3. Please remove Openings 17 and E12 from the list as they do not exist on the project.

CLARIFICATION: Door 04 shall receive Hardware Set #2.



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Project	<u>Northland Corridor Redevelopment Phase 4 (BUDC)</u>	Addendum No.	<u>5</u>
	<u>631 Northland Avenue, Buffalo, NY</u>	Contract	<u>-</u>
Wendel Project No.	<u>432607</u>	Date	<u>11/07/2025</u>

ARTICLE - 11

DRAWING NO.	<u>N/A</u>
SPEC	<u>083613, 083323,</u>
SECTION	<u>079200</u>

QUESTION:

Spec sections 083613 1.2B and 083323 1.2A reference joint sealant between the door track and the jambs. This is not a "normal" application as the weather seal from the overhead door is sufficient to keep the elements from getting into any space between the track and jambs. Can we confirm that joint sealant is mandatory at these locations?

ANSWER:

The intent of the cross-reference to 079200 Joint Sealants is to provide sealant between fixed elements, such as between a fixed door casing and the adjacent fixed construction. The weather seal on the overhead and sectional doors is sufficient between the door tracks and the jambs, and no sealant is intended to be installed at those locations.

ARTICLE - 12

DRAWING NO.	<u>N/A</u>
SPEC	
SECTION	<u>087100</u>

QUESTION:

Are there any approved alternate manufacturers for the door hardware?

ANSWER:

Spec Section 087100, Item 4.00 General Notes - Subcategory G states: "Schedule indicates Basis of Design products. Subject to compliance with requirements, provide specified product, or comparable product from different manufacturers that meet the same function, regulatory requirements, industry standards, quality and aesthetics."

Therefore, comparable products from different manufacturers are allowed as long as they meet the same function, regulatory requirements, industry standards, quality and aesthetics.

ARTICLE - 13

DRAWING NO.	<u>E100, E502</u>
SPEC	
SECTION	<u>N/A</u>

QUESTION:

Typical electrical conduit on E100 for connections to site lighting does not have a standard conduit trench detail. Please provide.

ANSWER:

Detail 5 on E-502 applies, conduit size to be adjusted as noted on the drawings.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 14

DRAWING NO. AD101A, S101A
SPEC
SECTION N/A

QUESTION:

Re: Drawing AD101A, note D07 - Remove existing concrete pad and footings. Are these footings to be removed in their entirety or to 1-2 feet below grade, leaving in place anything below this elevation?

Re: Drawing AD101A, note D20 - remove existing steel stair and associated hardware, railings and foundations. Are these footings to be removed in their entirety or 1-2 feet below grade, leaving in place anything below this elevation?

If fully removed, can a detail be provided that shows the extent of the footings? Also, will these footings/foundations need to be disposed of as contaminated due to soil conditions, or as standard C&D?

ANSWER:

Please refer to Addendum 02, Article 11 and 14 and the revised drawings attached to that addendum. Revised Demo Note D07 states to remove in their entirety. Existing information/detail on the exact depth is unknown at this time. At this time, the footings/foundations are to be disposed of as standard C&D. Should additional information become available through the BCP investigation, that information will be shared with the contractor and a scope change negotiated as appropriate.

ARTICLE - 15

DRAWING NO. N/A
SPEC
SECTION N/A

QUESTION: At the pre-bid conference, it was mentioned that the Owner will be removing existing contents. With the noted asbestos debris present, will the Owner remove the contents prior to work start? Or will the removal have to be sequenced with the abatement operations?

ANSWER: The existing contents that the Owner plans to salvage will be removed by the Owner prior to start of construction.

ARTICLE - 16

DRAWING NO. N/A
SPEC
SECTION 001113

QUESTION: Is there a possibility of another site walkthrough prior to the bid date?

ANSWER: Yes. As advised at the Prebid Meeting and in Specification Section 001113, the Property Management points of contact are listed to schedule an additional site walkthrough.



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Project **Northland Corridor Redevelopment Phase 4 (BUDC)** Addendum No. **5**
631 Northland Avenue, Buffalo, NY Contract **-**
Wendel Project No. **432607** Date **11/07/2025**

ARTICLE - **17**

DRAWING NO. **S101A-B, S500**
SPEC
SECTION **012100**

QUESTION:

1. Please confirm the quantity of concrete repairs for allowance #4. Is this to be based off the total ground square footage of the total ground square footage minus the concrete being replaced?
2. Can an addendum be released showing the detailed sf area of the true footage needed to complete these repairs?
3. How is the crack injection and patching scope for the area of concrete repair to be quantified? These two types of repairs are completely different

ANSWER:

1. Please refer to the Allowance description in specification section 012100 and reference sheet S101A plus appropriate sheets that identify the quantities for concrete repair. Contractor shall also reference 1/S101A and 1/S101B for concrete slab-on-grade repair/replacement information.
2. Actual quantities of required existing concrete slab-on-grade repair/replacement currently unknown due to existing debris and wood blocking covering the slab.
3. Known masonry repair areas are shown on the structural drawings. If currently unknown areas of masonry are discovered to require repairs during construction, repair procedures are provided on sheet S500 and applicable project specifications.

ARTICLE - **18**

DRAWING NO. **N/A**
SPEC
SECTION **075400 – TPO Roofing**

QUESTION:

1. Spec section 075400 TPO Roofing paragraph 1.9.B specifies a warranty term but no wind speed. We would recommend 90 mph.
2. Spec section 075400 TPO Roofing does not specify a coverboard. We would strongly suggest that you add a coverboard to the assembly for both wind resistance and crush resistance. We would recommend ½" Securock by Carlisle which has a compressive strength of 1,800 PSI. The specified isocyanurate insulation has a compressive strength of 20 PSI which is fine as long as there is a coverboard to protect the insulation and prevent wind related failure.

ANSWER:

1. The warranty paragraph has been modified for clarification.
2. A paragraph has been added for coverboards.

REPLACE: Replace specification section 075400 TPO Roofing with the revised issued in this addendum.



375 Essay Road, Suite 200, Williamsville, New York 14221
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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 19

DRAWING NO. N/A

SPEC
SECTION 087100

QUESTION:

087100 2.04C requests furnishing new cylinders to match Owner's preferred keying system. What is the owner's preferred keying system?

ANSWER:

The owner is requesting that all doors in the project are put on one single master key.

ARTICLE - 20

DRAWING NO. N/A

SPEC **099113 – Exterior**
SECTION **Painting**

QUESTION:

1. Drawing A301 - A304, Note C10 and C25: Can you please provide a specification for the Corrosion Resistant Galvanizing Paint?
2. Drawing A301 - A304, Note C12: Can you please provide a specification for the Protective Paint?
3. Can you please advise where Spec Section 099602 High Performance Coatings are to be used?

ANSWER:

1. Section 099113 Exterior Painting has been revised to clarify these products based on the applicable substrate.
2. Section 099113 Exterior Painting has been revised to clarify these products based on the applicable substrate.
3. Section 099602 High Performance Coatings is not currently being utilized on this project. The specification will remain in the contract documents so that if it is determined during construction that high performance coatings are needed, the specification will be available.

REPLACE: Specification section 099113 with the revised specification section 099113 issued as part of this addendum.



375 Essjay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project	<u>Northland Corridor Redevelopment Phase 4 (BUDC)</u>	Addendum No.	<u>5</u>
	<u>631 Northland Avenue, Buffalo, NY</u>	Contract	<u>-</u>
Wendel Project No.	<u>432607</u>	Date	<u>11/07/2025</u>

ARTICLE - 21

DRAWING NO. N/A

SPEC Vol 2 Appendix Ph
SECTION 1 ESA Feb 2024

QUESTION:

1. The asbestos survey excludes 3 inaccessible areas. Sampling must occur in these areas when they are accessed for work. These include the area below the rotoblast, inside the exterior furnace, and electrical and switch boxes. Are these assumed to contain asbestos-containing materials? If so, will this work be addressed via the contingency allowance?
2. The pre-renovation Hazardous Materials inspection has tests of the wood floor blocking listed as non-PCB containing (Feb 2024). The 700002 Phase 1 Assessment (Feb 2024) documents state that PCB was detected in the wood block flooring. Is all wood floor blocking to be considered PCB-containing?
3. The Limited pre-renovation Hazardous Materials inspection describes the floor blocking as being "black creosote wood blocking". NYS requires wood containing/coated with creosote to be disposed of in a landfill permitted by the DEC to accept such material. If not PCB-containing, does the wood floor blocking contain creosote? Is all wood floor blocking to be treated as creosote-containing for handling and disposal purposes?

ANSWER:

1. The area under the rotoblast and the interior of the exterior furnace remain inaccessible. Additionally, there has been no way to determine what suspect materials, if any, are present within these spaces. While sampling of materials would be required to confirm that they are non-asbestos containing, however, should the abatement process of the existing materials render the inaccessible spaces "contaminated" then these areas are required to be cleaned in accordance with 12 NYCRR Part 56.
2. The Wood Block flooring had been tested in 2015 during a Fisher Associates Phase II, which was referenced in the Phase I ESA report (Feb 2024) issued in the Bid Specification Appendix Volume 2. As shown in the results, none of the wood blocking was determined to be a PCB-Containing material through this sampling effort. The contract documents do not indicate that the wood blocking shall be treated as a PCB.
3. The term "creosote" was used by the Inspector as a description only and not a declaration of material type. There is no evidence that this material is creosote.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project	<u>Northland Corridor Redevelopment Phase 4 (BUDC)</u>	Addendum No.	<u>5</u>
	<u>631 Northland Avenue, Buffalo, NY</u>	Contract	<u>-</u>
Wendel Project No.	<u>432607</u>	Date	<u>11/07/2025</u>

ARTICLE - 22

DRAWING NO. HM100

SPEC
SECTION 028314

QUESTION:

Drawing HM-100 calls out LBP1 and LBP2 lead paint abatement notes and provides quantities for bidding purposes. There are several other conditions listed where lead-containing materials are present in painted surfaces but are not called out to be abated and quantities are not provided for these areas. That would leave the painters to prep these surfaces. However, the painters are saying they will not prep/scrape these surfaces because they contain lead. The abatement contractors are not providing this scope because these areas are not noted on the HM plans to be abated and quantities are not provided. Can lead abatement key notes for these lead-containing painted surfaces be added to the HM plans with quantities so the abatement contractors will include this scope of work?

ANSWER:

Lead-Containing paint is not a regulated material and is listed for Contractor information only to comply with 29 CFR 1926.62.

Lead abatement key notes would not be applicable for these materials as lead abatement is not required for lead-containing paints.

Specification 028314 – Lead Hazard Control Activities addresses the requirements.

ARTICLE - 23

DRAWING NO. HM Series

SPEC
SECTION N/A

QUESTION:

Drawing Note(s) LG, WIC, and WIG all instruct the contractor to perform TCLP analysis to determine disposal methods. If the material is determined to be hazardous, the waste should be disposed of accordingly. If the material(s) are non-hazardous per TCLP testing, the material(s) should be disposed of as ACM. There is a significant cost difference between these disposal methods. What disposal method should a Contractor assume for bidding purposes?

ANSWER:

WIG and WIC are ACMs on their own and are associated with a known lead-product. Disposal methods shall be responsible to the means and methods chosen by the contractor.

It should be noted that WIC and WIG key Notes on HM-100 state that Lead Containing and Lead Based shall have TCLP sampling performed.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 24 DRAWING NO. N/A
SPEC SECTION 233423

QUESTION: Are there specifications for the ARUs, fans, or electric heaters? Are there approved alternates?

ANSWER: Specification section 233423 is the specification for the fans.

The ARU's and electric heaters should be bid based on the schedules on the drawings. Be sure to refer to addendum updates to the schedules. The substitution period and process was to take place during bidding. Equivalents may be submitted with the contractor bid proposal and shall be considered as per the Bid Form.

ARTICLE - 25 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION:

At what elevation is the site work to begin at? LiRo Engineers is handling the BCP Remediation but at what depth are they going to leave the site at? Without an elevation I can only use the soil borings log which is roughly +/- 12".

ANSWER:

The scope of the site work is to follow what is designed in the bid documents. Once the site remediation design has been completed, any changes will be coordinated with the site contractor, and a change order will be negotiated.

ARTICLE - 26 DRAWING NO. A251
SPEC SECTION 078100, 078400

QUESTION:

1. In regards to the spray fireproofing shown on A-453 detail 2, will there be a specification section released for this? If not, what is the basis of design.
2. As it is shown on A-251, what is the intent behind the hexagonal pattern shown throughout the details on this page.

ANSWER:

1. Refer to specification sections 078100 Applied Fire Protection and revised section 078400 Firestopping.
2. Drawing sheet A251 should not be part of the drawing set.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project	<u>Northland Corridor Redevelopment Phase 4 (BUDC)</u>	Addendum No.	<u>5</u>
	<u>631 Northland Avenue, Buffalo, NY</u>	Contract	<u>-</u>
Wendel Project No.	<u>432607</u>	Date	<u>11/07/2025</u>

DELETE: Drawing A251 from the drawing set and strike from the drawing index.

ADD: Specification section 078100 Applied Fire Protection issued as part of this addendum and reflected as such on the Table of Contents (TOC).

REPLACE: Specification 078400 with the revised issued as part of this addendum.

ARTICLE - 27

DRAWING NO.	<u>N/A</u>
SPEC SECTION	<u>028300</u>

QUESTION: We understand that the interior walls, catwalks, platforms, guardrail & handrail assemblies, precast planks etc., contain flaking lead-based paint. To provide accurate pricing and ensure full compliance with all project requirements, we need comprehensive information regarding the expectations for containment, water management, disposal, testing, documentation, and any other project-specific requirements in regard to removing the washing and removal of the paint as scheduled on A900. Please provide information and clarification on the following:

1. Are we required to provide lead testing of wastewater or solid waste generated?
2. What documentation must we provide regarding lead-contaminated materials?
3. What are your specific requirements for containing wastewater during pressure washing operations?

ANSWER:

1. Contractor shall refer to Specification Section 028300 Lead Abatement, specifically, Item 2.11, A. 1. And 2.
2. More information is needed. RE&LS is not sure if the question is related to training requirements, certifications, medical clearance, or if this is related to the materials themselves.
3. Contractor shall refer to Specification Section 028300 Lead Abatement, specifically, Item 2.7, A. 7. and B.6.

ARTICLE - 28

DRAWING NO.	<u>N/A</u>
SPEC SECTION	<u>028300</u>

QUESTION: Are there existing floor drains that may or may not be used?

ANSWER: Contractor shall refer to Specification Section 028300 Lead Abatement, specifically, Item 2.8 Environmental Ground Protection.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 29 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION: What secondary containment systems are required (berms, barriers, catch basins)?

ANSWER: This would fall under means and methods and is up to the Contractor, provided that it is an acceptable and allowable containment system in accordance with federal, state and local laws.

ARTICLE - 30 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION: Are there specific requirements for the temporary storage of collected wastewater on-site?

ANSWER: All waste generated from disturbance of lead-based materials shall be segregated from general construction debris.

ARTICLE - 31 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION: What are the maximum allowable storage volumes and durations?

ANSWER: As in accordance with federal, state and local laws

ARTICLE - 32 DRAWING NO. N/A
SPEC SECTION 028300

QUESTION:

Are vacuum recovery systems required, or are other collection methods acceptable?

ANSWER: Contractor shall refer to Specification Section 028300 Lead Abatement, specifically, Item 2.7 DISTURBANCE TO PAINTED SURFACES, B. and C.



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P 716.688.0766 F 716.625.6825

Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 33

DRAWING NO. N/A

QUESTION:

SPEC
SECTION 028300

Are we required to treat the wastewater on-site, or is off-site disposal acceptable?

What wastewater characterization/testing is required before disposal?

What is the expected classification of the wastewater (hazardous vs. non-hazardous)?

ANSWER: Contractor shall refer to Specification Section 028300 Lead Abatement, Item 2.11 PRE-DISPOSAL TESTING, A.1. and 2. And Item 2.12 DISPOSAL OF LEAD PAINT AND RELATED DEBRIS, A. and B.

ARTICLE - 34

DRAWING NO. N/A

QUESTION:

SPEC
SECTION N/A

If on-site treatment is required, what are the discharge standards we must meet?

If off-site disposal is required, are there specific approved disposal facilities we must use?

ANSWER:

The Contractor is responsible for following this Specification, as well as, all applicable local, state, and federal laws and regulations regarding lead.

ARTICLE - 35

DRAWING NO. N/A

QUESTION:

SPEC
SECTION 028300

Are we required to provide waste manifests and disposal documentation?

ANSWER: Contractor shall refer to Specification Section 028300, specifically, 1.3 PROJECT CONDITIONS, G.

ARTICLE - 36

DRAWING NO. N/A

QUESTION:

SPEC
SECTION 028300

1. How must we manage paint chips, flakes, and sediment removed during cleaning?
2. Are there specific containers or packaging requirements for lead-based products?

ANSWER: Contractor shall refer to Specification Section 028300 Lead Abatement, specifically, Item 2.4 SIGNS AND LABELS, and Item 2.7 DISTURBANCE TO PAINTED SURFACES, B. and C.



375 Essay Road, Suite 200, Williamsville, New York 14221
P 716.688.0766 F 716.625.6825

Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE - 37

DRAWING NO. N/A

SPEC
SECTION 028300

QUESTION:

What are the disposal requirements for lead-contaminated solid waste?

Must we provide documentation for solid waste disposal?

ANSWER:

Contractor shall refer to Specification Section 028300 Lead Abatement, specifically, item 2.12 DISPOSAL OF LEAD PAINT AND RELATED DEBRIS.

ARTICLE - 38

DRAWING NO. HM Series, A900,
S101-A-B

SPEC
SECTION N/A

QUESTION:

Per the schedule on A900, all existing interior structural steel is to have the existing finishes removed as directed in Haz Mat drawings and specs. No structural steel is indicated to have finishes removed on the HM drawings. Only notes 4&5 on S101A-B and note 5 on S103A-B indicate to have the coatings removed. The schedule on A900 also indicates that the interior structural steel is to be prepped and painted. Based on the HM drawing notes the coating on the structural steel contains lead based paint. Please clarify how the interior structural steel is to be prepped for paint if it contains lead. Section 099005 3.4 8 indicates using an abrasive cleaner and or sanding. Does all the existing lead-based paint on the interior structural steel need to be removed to meet the prep for paint requirement? If this is the case, would this fall under lead removals?

ANSWER:

Not all structural steel coatings are required to be removed as they have been identified as lead containing and not lead based as indicated on the Hazmat drawings.

The coatings on the structural steel are lead-containing, not lead based.

Surface preparation of existing structural steel shall be in accordance with the coating manufacturer's written specifications and recommendations. Reference architectural documents for coating/painting/finishing information.

If contractors' "means and methods" include abrasive methods for removal of lead containing or lead based coatings/paint, this shall be completed within a negative pressure containment in accordance with 29 CFR 1926.62.



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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE 39

DRAWING NO. N/A

SPEC
SECTION N/A

QUESTION: Light pole base detail indicates depth to bedrock. Based on boring SB-5-24 auger refusal is 11.5' deep. Can you confirm this to be depths of the light pole base?

ANSWER: Confirmed, light pole bases the depth of bedrock.

Reference geotechnical report for known stratigraphic subgrade soil/bedrock depth information. Light post contractor shall be responsible to provide certified light post foundations calculations and design sketches for the engineer's review and acceptance through the submittal process prior to constructing light post foundations.

ARTICLE 40

DRAWING NO. S103A

SPEC
SECTION N/A

QUESTION:

Detail #5 on S103A shows Concentrated Loads on Roof Trusses. Where exactly is Detail #5 supposed to be on the structural drawings?

ANSWER:

Detail 05/S103A applicable at any location where concentrated point loads are applied to roof trusses. Reference General Note #9/S000 "Contractor shall coordinate structural work with the architectural drawings and specifications, and with the work of all other trades."

ARTICLE 41

DRAWING NO. C502

SPEC
SECTION N/A

QUESTION:

Site Bollards (31 Total) shown in detail on C502 are 8'. Per National Grid requirements around Transformer pads, Generator Pads etc. call for 9' and to be 4' o/c. Which this would require more bollards around the pads at this 9' length. Please revise quantity of site bollards vs National Grid Requirements.

ANSWER:

Per national grid ESB759B bollards should be 9', 5' above grade 4' below. However, also per ESB759B there is no reference to 4' OC as it reads "The number, type (galvanized or steel) and locations of bollards shall be determined by distribution design/planning...". The bollards around the ARU unit on the south end and at the overhead doors on the west side do not need to meet national grid requirements.



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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE 42 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION:

1. Is this contract responsible for identifying and removing material in drums at the interior and exterior of the building? This is not indicated on the drawings, but these drums were present at the walk-through and on the hazmat surveys.
2. Is this contract responsible for identifying and removing material within the Above Ground Storage Tank (AST)? Does it involve removing the AST? If yes, there are many unknowns until it is characterized.
3. Is this contract responsible for identifying what is inside the welded manhole cover in the central portion of the building? Once identified, does the scope address removal/remediation?
4. Is this contract responsible for identifying and remediation of the sump pit and floor drains?
5. Is this contract responsible for testing and treatment of site water discharged as part of this package?

ANSWER:

1. Drums that are present during the construction of the phase would require identification and disposal. Identification and disposal shall be performed in accordance with federal, state and local laws.
 2. The contractor is responsible for identifying and disposal through waste characterization of the contents of the AST. Contractor shall coordinate with architectural drawings for the removal requirements.
 3. Yes. The condition is unknown, and the contractor is responsible for identifying and removal requirements.
 4. Yes.
 5. Contactor shall refer to Article 3, Answer #2 above in this addendum.
-
-



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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE 43 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION:

Hardware set 4:

Openings 01 and 05 has both a Door Closer and a Door Operators on a single door. Are we to use the door operator and disregard the door closer?

ANSWER:

The door closer can be removed from 01 and 05. The operator alone is sufficient.

ARTICLE 44 DRAWING NO. C502
SPEC SECTION N/A

QUESTION:

Please provide details for the vehicular swing gates.

ANSWER:

Refer to Detail 13, C502 for the vehicle swing gate. The width of the opening varies; refer to C201 for access drive width dimensions requirements. Refer to Addendum 4 for specifications on chain-link fencing.

ARTICLE 45 DRAWING NO. C201, C505
SPEC SECTION N/A

QUESTION:

C201 site utility note #3 calls out "Fire Hydrant Assembly not used" - however detail 8/C505 shows a new proposed hydrant detail. Please clarify.

ANSWER:

A hydrant is not required for this project; omit detail 8/C505.



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Project Northland Corridor Redevelopment Phase 4 (BUDC) Addendum No. 5
631 Northland Avenue, Buffalo, NY Contract -
Wendel Project No. 432607 Date 11/07/2025

ARTICLE 46 DRAWING NO. N/A
SPEC SECTION 012100

QUESTION:

Per the revised bid form released with Addenda 3, Allowance #5 is to include all quantities listed on the HM series of drawings. Are the Haz mat items referenced in notes 4&5 on S103A&B, and lead paint removal at structural steel called out on A900, part of this allowance?

ANSWER:

Contractor shall refer to Allowance 5 description which includes hazardous materials such as asbestos, lead, etc. as described in the Allowances spec section 012100.

ARTICLE- 47 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION:

What depth are the foundations to be removed at the blast furnace? Is there any additional information on them?

ANSWER:

Please refer to Addendum 02, Article 11 and 14 and the revised drawings attached to that addendum, and Article 14 above in this addendum.

ARTICLE 48 DRAWING NO. N/A
SPEC SECTION N/A

QUESTION:

Window Equivalency Proposal – Wausau INvent Retro Window – was submitted for consideration in lieu of basis of design Winco Windows.

ANSWER:

Substitution Rejected. Although the dimensions of the proposed alternative window are close to the dimensions of the basis-of-design window, the profiles are not adequate far from the conditionally approved BOD. The fixed window over the operable window detail has different profiles than the BOD as well.

END OF ADDENDUM

TABLE OF CONTENTS

VOLUME 1

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

001113	PROJECT INFORMATION/INVITATION TO BID
002213	AIA A701-2018 INSTRUCTIONS TO BIDDERS
002214	CONTRACTOR QUALIFICATION FORM
002313	SUBSTITUTION REQUEST FORM
004113	BID FORM
006002	AIA A310-2010 BID BOND
006003	AIA A312-2010 PAYMENT BOND
006004	AIA A312-2010 PERFORMANCE BOND
008100	PARTIAL RELEASE AND WAIVER OF MECHANIC’S LIEN
008120	FINAL RELEASE AND WAIVER OF MECHANIC’S LIEN
008130	AIA G707-1994 CONSENT OF SURETY TO FINAL PAYMENT FORM
008500	NEW YORK STATE PREVAILING WAGE

DIVISION 01 - GENERAL REQUIREMENTS

011000	SUMMARY
012100	ALLOWANCES
012201	UNIT PRICES
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
13100A	REQUEST FORM FOR ELECTRONIC FILES

13100B	REQUEST FOR INFORMATION
013200	CONSTRUCTION PROGRESS DOCUMENTATION
013300	SUBMITTAL PROCEDURES
13300A	SUBMITTAL TRANSMITTAL
014000	QUALITY REQUIREMENTS
014110	SPECIAL INSPECTIONS WITH SOSI
014200	REFERENCES
015000	TEMPORARY FACILITIES AND CONTROLS
015369	TEMPORARY TREE PLANT AND PLANT PROTECTION
16000	PRODUCT REQUIREMENTS
017300	EXECUTION
017419	DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT & DISPOSAL
017700	CLOSEOUT PROCEDURES
017900	DEMONSTRATION AND TRAINING

DIVISION 02 - EXISTING CONDITIONS

024119	SELECTIVE STRUCTURAL DEMOLITION AND SUPPORT
028200	ASBESTOS ABATEMENT
028300	LEAD ABATEMENT
028314	LEAD HAZARD CONTROL ACTIVITIES

DIVISION 03 - CONCRETE

030130	MAINTENANCE OF CAST-IN-PLACE CONCRETE
031000	CONCRETE FORMWORK
033000	CAST-IN-PLACE CONCRETE
033200	CONCRETE REINFORCING
034100	PRE-CAST CONCRETE

DIVISION 04 - MASONRY

040110	MASONRY CLEANING
040120.63	MASONRY REPAIR
040120.64	MASONRY REPOINTING
042000	UNIT MASONRY
042200	CONCRETE UNIT MASONRY

DIVISION 05 - METALS

051200	STRUCTURAL STEEL FRAMING
053100	STEEL DECKING
054000	COLD-FORMED METAL FRAMING
055000	METAL FABRICATIONS
055100	METAL STAIRS
055213	PIPE AND TUBE RAILINGS

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

061000 ROUGH CARPENTRY

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

070553 FIRE AND SMOKE ASSEMBLY IDENTIFICATION

075400 THERMOPLASTIC MEMBRANE ROOFING

076200 SHEET METAL FLASHING AND TRIM

077100 ROOF SPECIALTIES

078100 APPLIED FIRE PROTECTION

078400 FIRESTOPPING

079200 JOINT SEALANTS

DIVISION 08 - OPENINGS

081113 HOLLOW METAL DOORS AND FRAMES

083100 ACCESS DOORS AND PANELS

083323 OVERHEAD COILING AND SPECIALTY DOORS

083613 SECTIONAL DOORS

085113 ALUMINUM WINDOWS

087100 FINISH HARDWARE

087113 POWER DOOR OPERATORS

088000 GLAZING

089100 LOUVERS

DIVISION 09 - FINISHES

099005 SURFACE PREPARATION FOR PAINTING

099113 EXTERIOR PAINTING

099123 INTERIOR PAINTING

099602 HIGH-PERFORMANCE COATINGS

DIVISION 21 - FIRE SUPPRESSION

210517 SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING

215018 ESCUTCHEONS FOR FIRE-SUPPRESSION PIPING

210523 GENERAL-DUTY VALVES FOR FIRE PROTECTION PIPING

210529 HANGERS AND SUPPORTS FOR FIRE SUPPRESSION PIPING AND
EQUIPMENT

210553 IDENTIFICATION FOR FIRE SUPPRESSION PIPING AND
EQUIPMENT

211119 FIRE DEPARTMENT CONNECTIONS

211313 WET-PIPE SPRINKLER SYSTEMS

DIVISION 22 - PLUMBING

220500 COMMON WORK RESULTS FOR PLUMBING

220519 METERS AND GAGES

220523 GENERAL DUTY VALVES FOR PLUBMING PIPING

220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

220553 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

220719 PLUMBING PIPING INSULATION

221116	DOMESTIC WATER PIPING
221119	DOMESTIC WATER PIPING SPECIALTIES
221316	SANITARY WASTE AND VENT PIPING
221319	SANITARY WASTE PIPING SPECIALTIES
221413	STORM DRAINAGE PIPING
221423	STORM DRAINAGE PIPING SPECIALTIES
221613	FUEL GAS PIPING

DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

230010	GENERAL MECHANICAL REQUIREMENTS
230513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT
230529	HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT
230553	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT
230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC
230713	DUCT INSULATION
230800	COMMISSIONING OF HVAC
233113	METAL DUCTS
233116	NONMETEL DUCTS
233300	AIR DUCT ACCESSORIES
233423	HVAC POWER VENTILATORS
233723	HVAC GRAVITY VENTILATORS

235100 BREECHINGS, CHIMNEYS, AND STACKS

237200 ROOF ACCESSORIES

DIVISION 26 - ELECTRICAL

260500 COMMON WORK RESULTS FOR ELECTRICAL

260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND
CABLES

260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

260529 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

260533 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS

262416 PANELBOARDS

262726 WIRING DEVICES

263213.14 DIESEL ENGINE GENERATORS

263600 TRANSFER SWITCHES

265100 INTERIOR LIGHTING

265619 LED EXTERIOR LIGHTING

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

283111 DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM

DIVISION 31 - EARTHWORK

310000 EARTHWORK BROADSCOPE

311000 SITE CLEARING, PREPARATION AND REMOVALS

312000	EARTH MOVING – SITE
312001	EARTHWORK FOR SPECIAL STRUCTURES
312319	DEWATERING
312500	TEMPORARY EROSION AND SEDIMENT CONTROL
314100	SHORING AND BRACING
315000	EXCAVATION SUPPORT AND PROTECTION
316329	DRILLED CONCRETE PIERS

DIVISION 32 - EXTERIOR IMPROVEMENTS

321216	ASPHALT PAVING
321313	CONCRETE PAVING
321373	CONCRETE PAVING JOINT SEALANTS
321723	PAVEMENT MARKINGS
321726	TACTILE WARNING SURFACING
323113	CHAIN LINK FENCES AND GATES
329000	LANDSCAPE WORK

DIVISION 33 - UTILITIES

331000	WATER UTILITIES
333000	SANITARY SEWER SYSTEM
334200	STORMWATER CONVEYANCE

VOLUME 2

APPENDIX A – REPORTS

1. GEOTECHNICAL ENGINEERING INVESTIGATION
2. LIMITED PRE-RENOVATION HAZMAT INSPECTION REPORT
3. PHASE 1 ENVIRONMETAL SITE ASSESSMENT
4. LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT
5. 2015 PHASE II ENVRIONMENTAL SITE ASSESSMENT BY FISHER ASSOCIATES (*FOR INFORMATION*)

END OF TABLE OF CONTENTS

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 904 - Specification for Multi-Bar Hinges in Window Applications.
- 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 5-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

- A. Locks:

1. Cam type locking handles; white bronze alloy with US25D brushed finish.

B. Operator:

1. 4 –bar arms conforming to AAMA 904.
2. Key release limit arms.

C. Hinge:

1. 5 knuckle butt hinge with stainless steel pin.

2.7 FINISHES

- A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41, clear anodic coating not less than 0.7 mil thick.

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.

Wendel Project No. 432607
October 2025

Buffalo Urban Development Corporation
Northland Corridor Redevelopment Project Phase 4
631 Northland Avenue

END OF SECTION 085113

SECTION 087100 - FINISH HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

- A. Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.
- B. Work generally includes the provision of finish hardware for all new doors.
- C. Types of finish hardware required include the following:
 - 1. Hinges
 - 2. Lock cylinders and keys
 - 3. Lock and latch sets
 - 4. Bolts
 - 5. Closers
 - 6. Miscellaneous door control devices
 - 7. Door trim units
 - 8. Protection plates
 - 9. Weatherstripping for exterior doors
 - 10. Thresholds

1.03 QUALITY ASSURANCE

- A. Manufacturer: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.
- B. Supplier: A recognized architectural finish hardware supplier, with warehousing facilities, who has been furnishing hardware in the project's vicinity for a period of no less than 3 years, and who is, or who employs an experienced architectural hardware consultant.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data for each item of hardware. Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.

- B. Hardware Schedule: Submit final hardware schedule in manner indicated below. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.
- C. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
 - 1. Type, style, function, size and finish of each hardware item.
 - 2. Name and manufacturer of each item.
 - 3. Location of hardware set cross-referenced to indications on drawings both on floor plans and in door and frame schedule.
 - 4. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.
 - 5. Mounting locations for hardware.
 - 6. Door and frame sizes and materials.
 - 7. Keying information.
- D. Submittal Sequence: Submit schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.
- E. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- F. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.

1.05 PRODUCT HANDLING

- A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.
- B. Packaging of hardware, is responsibility of finish hardware supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
- C. Inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
- D. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.
- E. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

PART 2 - PRODUCTS

2.01 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware are indicated in the Hardware Schedule at the end of this section. Products are identified by using manufacturer's hardware numbers.
- B. Manufacturer's Product Designations: One manufacturer is listed for each hardware type required. Provide either the product designated, or, comparable approved product of one of the other manufacturers which comply with requirements including those specified elsewhere in this section.

2.02 MATERIALS AND FABRICATION

General:

- A. Hand of door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
- B. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI A156 series standard for each type hardware item and with ANSI A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.
- C. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.
- D. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work, including "prepared for paint" in surfaces to receive painted finish.
- E. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners.

2.03 HINGES, BUTTS AND PIVOTS

- A. Templates: Provide only template-produced units.
- B. Screws: Furnish Phillips flat-head or machine screws for installation of units. Finish screw heads to match surface of hinges or pivots.

2.04 LOCKS, CYLINDERS AND KEYING

- A. General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.
- B. Locksets: Locksets shall be Extra Heavy Duty mortise or cylindrical lever-set type. Function shall be as indicated in hardware sets. Trim shall be lever handle (handicapped accessible).
- C. Standard System: Except as otherwise indicated, provide new cylinder to match Owner's preferred keying system.
- D. Metals: Construct lock cylinder parts from brass/ bronze, stainless steel or nickel silver.
- E. Comply with Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.
 - 1. Keys shall be plain bow (no identification), and shall be stamped "DO NOT DUPLICATE."
- F. Key Material: Provide keys of nickel silver only.
- G. Key Quantity: Furnish 3 change keys for each lock.
 - 1. Deliver keys to Owner's representative.

2.05 LOCKS, LATCHES AND BOLTS

- A. Strikes: Provide manufacturer's standard strike for all latch or lock bolts, with curved lip extended to protect frame, finished to match hardware set.
- B. Lock Throw: Provide 1/2" minimum throw of latch and deadbolt used on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
- C. Flush Bolt Heads: Minimum of 1/2" diameter rods of bronze with minimum 12" long rod for doors up to 7'-2" in height.

2.06 CLOSERS AND DOOR CONTROL DEVICES

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit, depending upon the size of door, exposure to weather and anticipated frequency of use.
- B. Provide parallel arms for all overhead closers, except as otherwise indicated.

2.07 WALL BUMPERS AND DOOR STOPS

- A. Bumpers and stops are not noted on schedule. Provide wall bumper at every door. Provide floor bumper where wall bumpers cannot be used. Provide grey resilient parts for bumpers. Finish US26D or US32D. Use risers and extenders of same finish as hardware.

2.08 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, and similar units); either machine screws or self-tapping screw.

- 1. Plates: US32D

2.09 WEATHERSTRIPPING

- A. General: Provide continuous weatherstripping at each edge of exterior door leaves where indicated. Provide type, sizes and profiles shown or scheduled. Provide non-corrosive fasteners as recommended by manufacturer for application indicated.
- B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.
- C. Weatherstripping at Jambs and Heads: Provide bumper- type resilient insert and metal retainer strips, surface-applied unless shown as mortised or semi-mortised, of clear anodized aluminum and EPDM/Sponge Neoprene, and adjustable astragals as stiles.
- D. Weatherstripping at Door Bottoms: Provide door bottom consisting of contact type resilient insert and metal housing for application to door bottom, of design and size shown; of extruded bronze solid neoprene wiper sweep seal.

2.10 THRESHOLDS

- A. General: Except as otherwise indicated provide standard aluminum threshold as shown or scheduled.

2.11 RAIN DRIPS

- A. Provide bronze anodized aluminum rain drips at all exterior outswinging door heads, extending full width of frame whether scheduled or not.

2.12 HARDWARE FINISHES

- A. Provide matching finishes for hardware units at each door or opening, to the greatest extent possible, and except as otherwise indicated. Match items to the manufacturer's standard finish for the latch and lock set (or push-pull units if no latch-lock sets) for color and texture.
- B. Provide finishes which match those established by BHMA or, if none established, match the Architect's sample.

- C. Finish: US26D.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by Architect.
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.
- C. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units which are not factory- prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.

3.02 ADJUST AND CLEAN

- A. Adjust and check each operating item of new hardware, ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

Note: Door Schedule also indicates miscellaneous hardware requirements which are not included in the hardware schedule.

PART 4 - SCHEDULE OF HARDWARE

4.00 General Notes

- A. Provide 7" high by (door width minus 2") wide stainless steel plate at all doors where "KICKPLATE" is indicated on schedule.
- B. Provide 28" high by (door width minus 2") wide stainless steel plate at all doors where "ARMORPLATE" is indicated on schedule.
- C. Provide manufacturer's standard embossed tactile warning strip at all doors where "TACTILE WARNING" is indicated on schedule, whether or not indicated on hardware sets, and at all hazardous areas. Hazardous areas include custodian spaces, storage, boiler, electrical and fire pump rooms, and mechanical rooms, trash rooms, labs and prep rooms.
- D. General: Provide hardware for each door to comply with requirements of Section "Finish Hardware", hardware set numbers indicated in door schedule, and in the following schedule of hardware sets.
- E. The following schedule lists typical openings. It is the responsibility of the Finish Hardware Supplier to visit the site, examine the drawings and door schedule and provide all necessary hardware as shown. Where specified hardware is not indicated or scheduled for a particular opening, provide the same hardware required for similar doors, openings and conditions elsewhere in the building. It shall be the responsibility of the Contractor and finish hardware supplier to furnish and install all such hardware, whether or not indicated herein.
- F. Quantities shown in these hardware sets represent basic requirements for each leaf. The finish hardware supplier shall be responsible for adjustments to quantities to suit field conditions or these specifications.
- G. Schedule indicates Basis of Design products. Subject to compliance with requirements, provide specified product, or comparable product from different manufacturers that meet the same function, regulatory requirements, industry standards, quality and aesthetics.

4.01 Hardware Set Number 1 (Door No. 7):

2	Continuous Hinges	McKinney MCK-12HD Aluminum Continuous Geared Hinge
1	Lockset	Sargent 8204 L, LS US26D
2	Door Closers	LCN 4040XP CUSH-N-STOP ARM
1	Set Head and Jamb Weatherstripping	Pemko 316 AS
1	Vertical Astragal	Pemko 355 AS, interrupt at lockguard
1	Threshold	Pemko 253X3 A FG
2	Door Sweeps	Pemko 345 A NB
2	Kickplates	Ives 8400
1	Lockguard	Ives LG10
1	Set Top and Bottom	

Flush Bolts

Ives FB51P

4.02 Hardware Set Number 2 (Doors No. 2, 3, 4, 6, 9, and 10):

1	Continuous Hinge	McKinney MCK-12HD Aluminum Continuous Geared Hinge
1	Exit Device	Sargent 8913 US26D, ETL
1	Lockguard	Ives
1	Door Closer	LCN 4040 CUSH
1	Armorplate	Rockwood
1	Set Head and Jamb	
	Weatherstripping	Pemko 316 AS PK
1	Threshold	Pemko 253X3 A FG
1	Door Sweep	Pemko 345 A NB

4.03 Hardware Set Number 3 (Door No. 8, 12, 13 and 14):

1	Continuous Hinge	McKinney MCK-12HD Aluminum Continuous Geared Hinge
1	Exit Device	Sargent 8913 US26D, ETL
1	Door Closer	LCN 4040 CUSH
1	Armorplate	Rockwood
1	Threshold	Pemko 1547 A
3	Silencers	

4.04 Hardware Set Number 4 (Doors No. 1 and 5):

1	Continuous Hinge	McKinney MCK-12HD Aluminum Continuous Geared Hinge
1	Automatic Door Operator	See Section 087113. Coordinate operation of electric strike and door operator
1	Exit Device	Sargent 8913 US26D, ETL
1	Electric Strike	Folger Adam 310 fail secure 24V – 630 with control wiring and transformer
1	Kickplate	Ives 8400
1	Set Head and Jamb	
	Weatherstripping	Pemko 316 AS
1	Threshold	Pemko 252X3 A
1	Door Sweep	Pemko 345 A NB

~~4.05 Hardware Set Number 5 (Doors No. 04, 15, 16, 18, 20, 22 and 26):~~

~~1 Cylinder~~

END OF SECTION 087100

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. Cover boards.
- E. Flashings.
- F. Roofing stack boots and walkway pads.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

- A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- C. ASTM D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
- D. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin-Based Sheet Roofing.
- E. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- F. FM (AG) - FM Approval Guide.
- G. NRCA (RM) - The NRCA Roofing Manual.
- H. 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.
 - 3. Exceptions are not Permitted:
 - a. Damage due to roof traffic.
 - b. Damage due to wind speed greater than 56 miles per hour but less than 90 miles per hour.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Thermoplastic Polyolefin (TPO) Membrane Roofing Materials:
 - 1. Basis 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 scrim.
 - 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 COVER BOARDS

A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.

1. Thickness: 1/2 inch, fire-resistant.
2. Products:
 - a. Georgia-Pacific; DensDeck: www.densdeck.com/#sle.
 - b. Gold Bond Building Products, LLC provided by National Gypsum Company; DEXcell Glass Mat Roof Board: www.goldbondbuilding.com/#sle.
 - c. USG Corporation; Securock: www.usg.com/#sle.
 - d.
 - e. Substitutions: See Section 016000 - Product Requirements.

2.5 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.

2.6 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. Cover Boards: Adhere cover boards in accordance with roofing manufacturer's instructions and FM (AG) Factory Mutual requirements.
- E. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.
- F. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- G. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- H. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.
- I. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches.
- J. 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 60 sq. ft. per gallon. 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 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. SSPC-SP 1 - Solvent Cleaning.
- B. SSPC-SP 2 - Hand Tool Cleaning.
- C. 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.
- B. Substitutions: See Section 016000 - Product Requirements.

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. Hollow metal doors and frames to be Painted.
 - 1. Two top coats and one coat primer.
 - 2. Top Coat(s): Exterior Light Industrial Coating, Water Based.
 - 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)
 - 4) Substitutions: See Section 016000 - Product Requirements
 3. Top Coat Sheen:
 - a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.
 4. Water Based Primer for Hollow metal doors and frames.
 - 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
- B. Stripped galvanized metal surfaces to be Painted.
 1. Two top coats and one coat primer.
 2. Top Coat(s): Two-component, isocyanate-free polysiloxane finish.
 - a. Products:
 - 1) Basis of Design: Sherwin-Williams Sher-Loxane 800; www.sherwin-williams.com.
 - 2) Substitutions: See Section 016000 - Product Requirements
 3. Primer:
 - a. Products:
 - 1) Basis of Design: Sherwin-Williams DTM Wash Primer: www.sherwin-williams.com.
 - 2) Substitutions: See Section 016000 - Product Requirements
- C. Stripped ferrous metal surfaces to be Painted.
 1. Two top coats and one coat primer.
 2. Top Coat(s): Two-component, isocyanate-free polysiloxane finish.
 - a. Products:
 - 1) Basis of Design: Sherwin-Williams Sher-Loxane 800; www.sherwin-williams.com.
 - 2) Substitutions: See Section 016000 - Product Requirements
 3. Primer:
 - a. Products:
 - 1) Basis of Design: Sherwin-Williams Corothane I MIO-Zinc Primer.
 - 2) Substitutions: See Section 016000 - Product Requirements
- D. Metal panels with existing finish to be encapsulated.
 1. Two top coats and one coat primer.
 2. Top Coat(s): Two-component, isocyanate-free polysiloxane finish.
 - a. Products:
 - 1) Basis of Design: Sherwin-Williams Sher-Loxane 800; www.sherwin-williams.com.
 - 2) Substitutions: See Section 016000 - Product Requirements
 3. Primer:
 - a. Products:

- 1) As recommended by top coat manufacturer for specific substrate.
- 2) Product selection confirmed only after successful completion of adhesion test(s).

2.4 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 078100 - APPLIED FIRE PROTECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Applied fire protection of interior structural steel not exposed to damage or moisture.
- B. Applied fire protection of structural steel exposed to damage or moisture.
- C. Preparation of applied fire protection for application of exposed overcoat finish specified elsewhere.

1.2 RELATED REQUIREMENTS

- A. Section 078400 - Firestopping.

1.3 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E736/E736M - Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members.
- C. ASTM E760/E760M - Standard Test Method for Effect of Impact on Bonding of Sprayed Fire-Resistive Material Applied to Structural Members.
- D. ASTM E859/E859M - Standard Test Method for Air Erosion of Sprayed Fire-Resistive Materials (SFRMs) Applied to Structural Members.
- E. ASTM E937/E937M - Standard Test Method for Corrosion of Steel by Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with placement of ceiling hanger tabs, mechanical component hangers, and electrical components.
- B. Preinstallation Meeting: Convene one week before starting work of this section.

1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittals procedures.
- B. Product Data: Provide data indicating product characteristics.
- C. Manufacturer's Certificate: Certify that applied fireproofing products meet or exceed requirements of Contract Documents.

- D. Test Reports: Reports from reputable independent testing agencies for proposed products, indicating compliance with specified criteria, conducted under conditions similar to those on project, as follows:
 - 1. Bond strength.
 - 2. Bond impact.
 - 3. Compressive strength.
 - 4. Fire tests using substrate materials similar those on project.
- E. Manufacturer's Installation Instructions: Indicate special procedures.
- F. Manufacturer's Qualification Statement.
- G. Installer's Qualification Statement.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience

1.7 MOCK-UP

- A. Construct mock-up, 100 square feet in size.
- B. Comply with project requirements for fire ratings.
- C. Locate where directed.
- D. Examine installation within one hour of application to determine variances from specified requirements due to shrinkage, temperature, and humidity.
- E. Where shrinkage and cracking are evident, adjust mixture and method of application as necessary; remove materials and re-construct mock-up.
- F. Mock-up may remain as part of the Work.

1.8 FIELD CONDITIONS

- A. Do not apply fireproofing when temperature of substrate material and surrounding air is below 40 degrees F or when temperature is predicted to be below said temperature for 24 hours after application.
- B. Provide ventilation in areas to receive fireproofing during application and 24 hours afterward, to dry applied material.
- C. Provide temporary enclosure to prevent spray from contaminating air.
- D. Do not allow roof traffic during installation of roof fireproofing and drying period.

1.9 WARRANTY

- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a two year period after Date of Substantial Completion.
 - 1. Include coverage for fireproofing to remain free from cracking, checking, dusting, flaking, spalling, separation, and blistering.
 - 2. Reinstall or repair failures that occur within warranty period.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Applied Fire Protection:
 - 1. GCP Applied Technologies: www.gcpat.com/#sle.
 - 2. Isolatek International Corp: www.isolatek.com/#sle.
 - 3. Southwest Fireproofing Products Company: www.sfrm.com/#sle.
 - 4. Substitutions: See Section 016000 - Product Requirements.

2.2 APPLIED FIRE PROTECTION ASSEMBLIES

2.3 MATERIALS

- A. Applied Fire Protection Material for Interior Applications, Exposed to View and Not to Damage: Manufacturer's standard factory mixed material, which when combined with water is capable of providing indicated fire resistance, and complying with following requirements:
 - 1. Composition: Gypsum-based; not mineral-fiber-based.
 - 2. Bond Strength: 150 pounds per square foot, minimum, when tested in accordance with ASTM E736/E736M when set and dry.
 - 3. Compressive Strength: 8.33 pounds per square inch, minimum.
 - 4. Effect of Impact on Bonding: No cracking, spalling or delamination, when tested in accordance with ASTM E760/E760M.
 - 5. Corrosivity: No evidence of corrosion, when tested in accordance with ASTM E937/E937M.
 - 6. Surface Burning Characteristics: Maximum flame spread index of 0 (zero) and maximum smoke developed index of 0 (zero), when tested in accordance with ASTM E84.
- B. Applied Fire Protection Material Exposed to Damage or Moisture: Manufacturer's standard factory mixed material, which when combined with water is capable of providing indicated fire resistance, and complying with following requirements:
 - 1. Recommended by manufacturer for permanent exterior exposure.
 - 2. Composition: Portland cement-based; not mineral fiber-based.
 - 3. Bond Strength: 1,000 psf, minimum, when tested in accordance with ASTM E736/E736M when set and dry.
 - 4. Effect of Impact on Bonding: No cracking, spalling or delamination, when tested in accordance with ASTM E760/E760M.
 - 5. Corrosivity: No evidence of corrosion, when tested in accordance with ASTM E937/E937M.

6. Air Erosion Resistance: Weight loss of 0.025 g/sq ft, maximum, when tested in accordance with ASTM E859/E859M after 24 hours.
7. Surface Burning Characteristics: Maximum flame spread index of 0 (zero) and maximum smoke developed index of 0 (zero), when tested in accordance with ASTM E84.

2.4 ACCESSORIES

- A. Primer Adhesive: Of type recommended by applied fire protection manufacturer.
- B. Overcoat: As recommended by manufacturer of applied fire protection material.
- C. Metal Lath: Expanded metal lath; minimum weight of 1.7 psf, galvanized finish.
- D. Water: Clean, potable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are ready to receive fireproofing.
- B. Verify that clips, hangers, supports, sleeves, and other items required to penetrate fireproofing are in place.
- C. Verify that ducts, piping, equipment, or other items that would interfere with application of fireproofing have not been installed.
- D. Verify that voids and cracks in substrate have been filled.
- E. Verify that projections have been removed where fireproofing will be exposed to view as a finish material.

3.2 PREPARATION

- A. Perform tests as recommended by fireproofing manufacturer in applications where adhesion of fireproofing to substrate is in question.
- B. Remove incompatible materials that could effect bond by scraping, brushing, scrubbing, or sandblasting.
- C. Prepare substrates to receive fireproofing in strict accordance with instructions of fireproofing manufacturer.
- D. Apply fireproofing manufacturer's recommended bonding agent on primed steel.
- E. Protect surfaces not scheduled for fireproofing and equipment from damage by overspray, fall-out, and dusting.
- F. Close off and seal duct work in areas where fireproofing is being applied.

3.3 APPLICATION

- A. Install metal lath over structural members as indicated or as required by UL Assembly Design Numbers.
- B. Apply primer adhesive in accordance with manufacturer's instructions.
- C. Apply fireproofing in uniform thickness and density as necessary to achieve required ratings.
- D. In exposed locations, trowel surface smooth and form square edges, using tools and procedures recommended by fireproofing manufacturer.
- E. Apply overcoat at the rate recommended by fireproofing manufacturer.

3.4 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with Section 014000 - Quality Requirements.
- B. Inspect installed fireproofing after application and curing for integrity, prior to its concealment.
- C. Ensure that actual thicknesses, densities, and bond strengths meet requirements for specified ratings and requirements of authorities having jurisdiction (AHJ).
- D. Repair or replace applied fireproofing at locations where test results indicate fireproofing does not meet specified requirements.
- E. Re-inspect installed fireproofing for integrity of fire protection, after installation of subsequent Work.

3.5 CLEANING

- A. Remove excess material, overspray, droppings, and debris.
- B. Remove fireproofing from materials and surfaces not required to be fireproofed.
- C. At exposed fireproofing, clean surfaces that have become soiled or stained, using manufacturer's recommended procedures.

END OF SECTION 078100

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 E2307 - Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus.
- E. 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.
- F. ITS (DIR) - Directory of Listed Products.
- G. FM (AG) - FM Approval Guide.
- H. UL 1479 - Standard for Fire Tests of Penetration Firestops.
- I. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems.
- 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. Perimeter Fire Containment Firestopping: Use system that has been tested according to ASTM E2307 to have fire resistance F Rating equal to required fire rating of floor assembly.
- B. 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.
- C. 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.
- D. 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.

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

CONSTRUCTION KEYNOTES	
C07	PROVIDE ROOF DRAINS. REFER TO PLUMBING DRAWINGS. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL SUPPORT DETAILS.
C20	PROVIDE GRAVITY FED VENTS. REFER TO MECHANICAL DRAWINGS.



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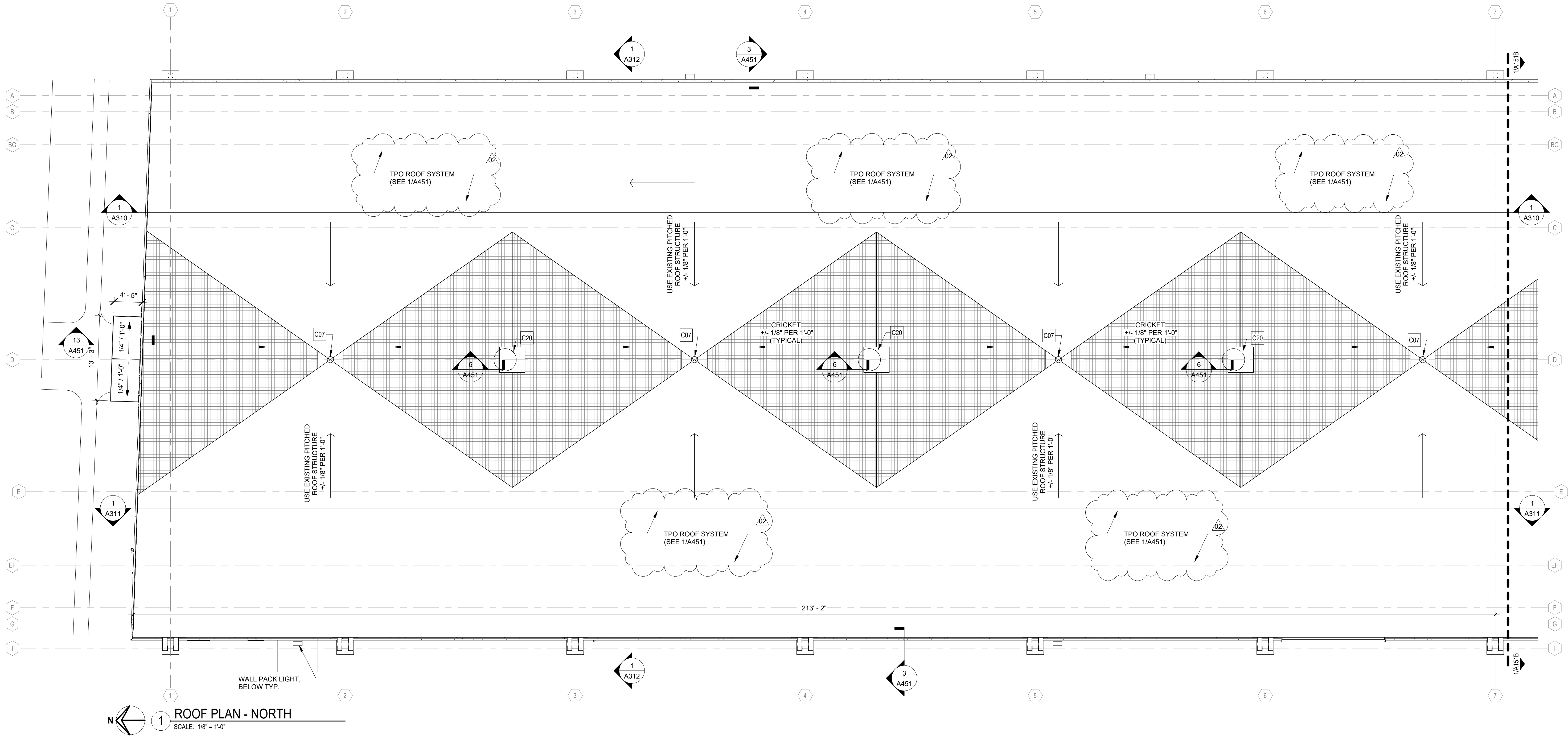


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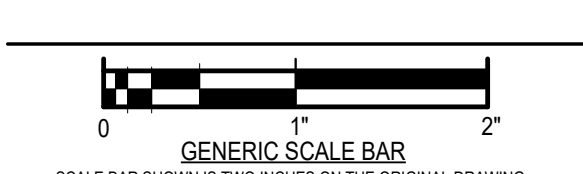


ROOF PLAN LEGEND/SYMBOLS	
	ROOF DRAIN & OVERFLOW DRAIN RE:
	EXHAUST FAN RE:
	TAPERED INSULATION CRICKET SLOPE DOWN IN DIRECTION INDICATED @ 1/2\"/>
	SLOPED DECK, DOWN IN DIRECTION INDICATED
	SLOPE BY TAPERED INSULATION, DOWN IN DIRECTION INDICATED

REVISIONS	
NO.	DATE
02	ADDENDUM #11 11/09/2020
01	ISSUED FOR PERMIT 10/01/2020
00	ISSUED FOR BID 10/01/2020

ROOF PLAN - NORTH

SCALE: 1/8\"/>



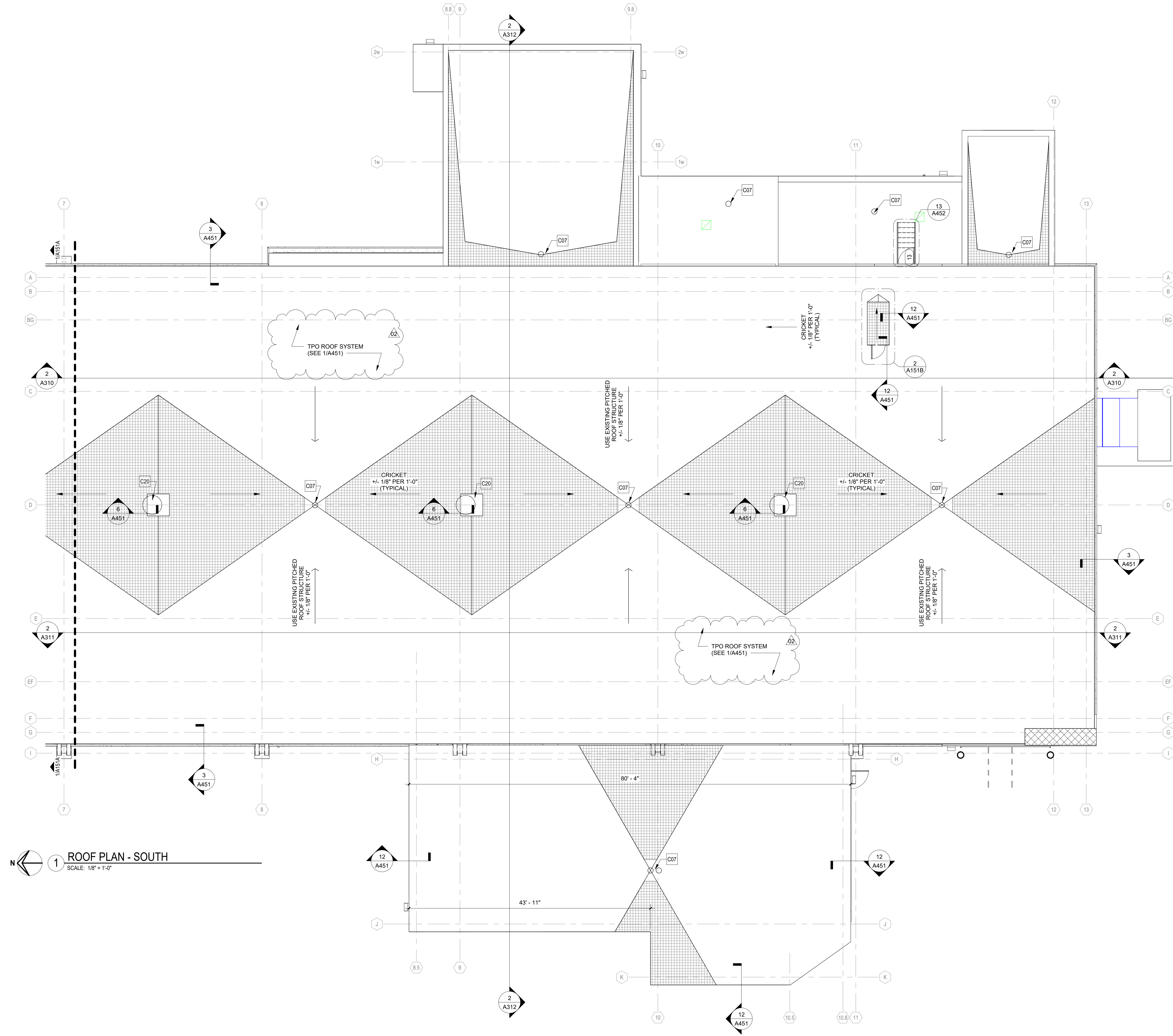
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GENERIC SCALE BAR

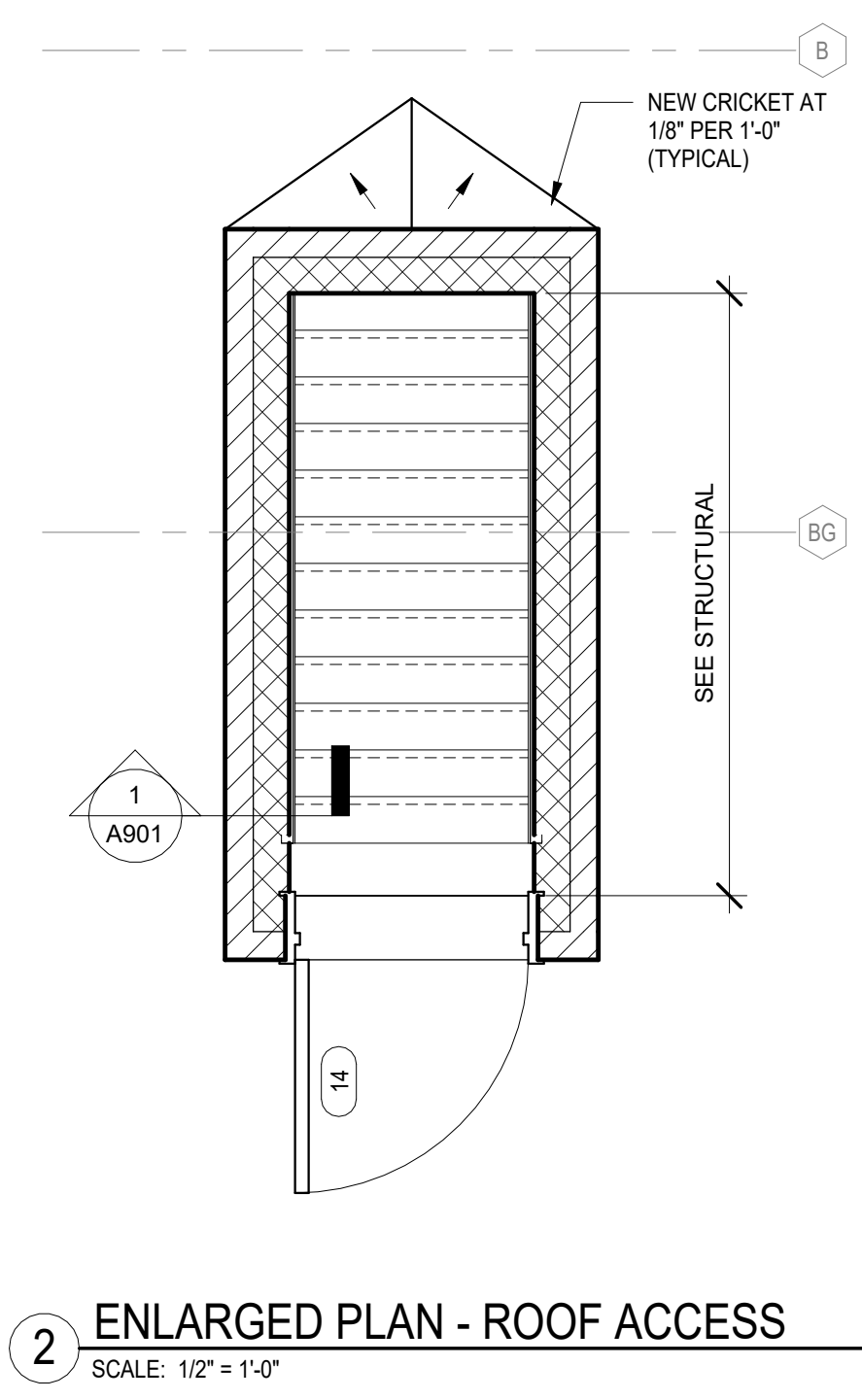
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SCALE	1/8\"/>
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PROJ. NO.	432607
DWG. NO.	

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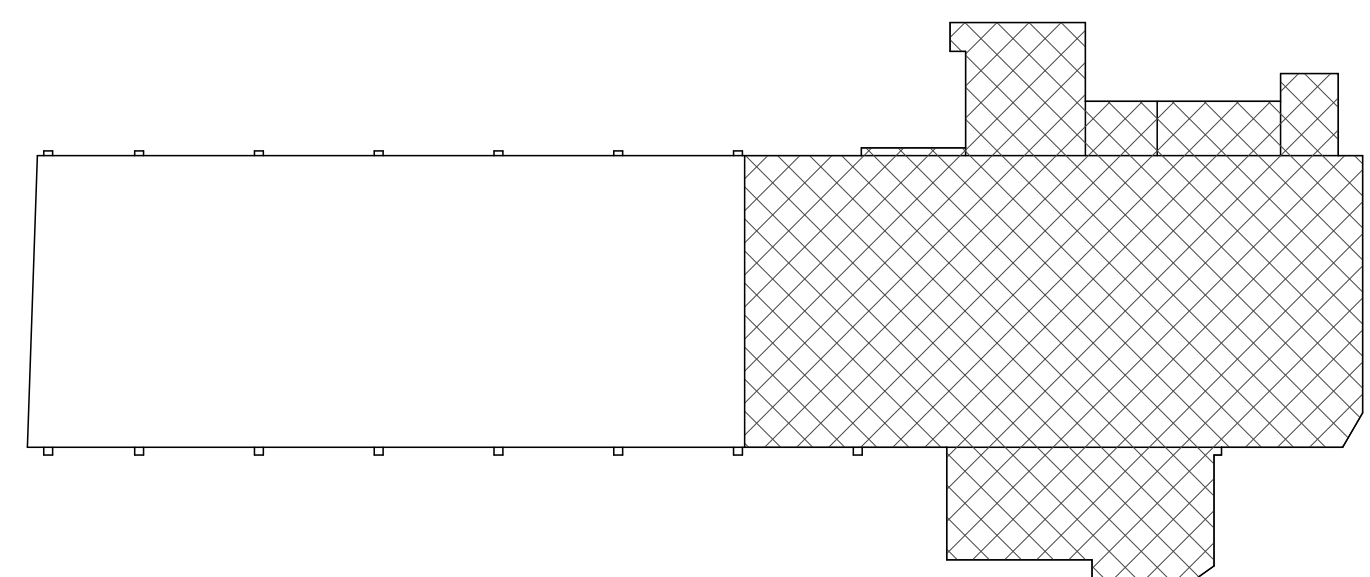


1 ROOF PLAN - SOUTH
SCALE: 1/8" = 1'-0"



2 ENLARGED PLAN - ROOF ACCESS
SCALE: 1/2" = 1'-0"

ROOF PLAN LEGEND/SYMBOLS	
	ROOF DRAIN & OVERFLOW DRAIN RE:
	EXHAUST FAN RE:
	TAPERED INSULATION CRICKET SLOPE DOWN IN DIRECTION INDICATED @ 1/2" PER 12"
	SLOPED DECK, DOWN IN DIRECTION INDICATED
	SLOPE BY TAPERED INSULATION, DOWN IN DIRECTION INDICATED



KEY PLAN

CONSTRUCTION KEYNOTES	
C07	PROVIDE ROOF DRAINS. REFER TO PLUMBING DRAWINGS. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL SUPPORT DETAILS.
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00	ISSUED FOR BID	10/01/2020

DWG. TITLE
ROOF PLAN - SOUTH

GENERIC SCALE BAR
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DATE	10/01/2025
SCALE	As indicated
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CHK.	BS1
PROJ. No.	432007
DWG. No.	

A151B